

**JOINT  
PUBLIC NOTICE**

**RECEIVED**

**CHARLESTON DISTRICT, CORPS OF ENGINEERS** OCT 11 2006  
69A Hagood Avenue

**Charleston, South Carolina 29403-5107**  
and the

**S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL**  
**OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT**

**1362 McMillan Avenue, Suite 400**  
**Charleston, South Carolina 29405**

**DHEC-OCRM**  
**CHARLESTON OFFICE**

REGULATORY DIVISION

Refer to: P/N #2005-2W-286-P (revised)

13 October 2006

Pursuant to Section 10 of the Rivers and Harbors Act (33 U.S.C. 403), Sections 401 and 404 of the Clean Water Act (33 U.S.C. 1344), and the South Carolina Coastal Zone Management Act (48-39-10 et. seq.) an application has been submitted to the Department of the Army and the S.C. Department of Health and Environmental Control by

**KINDER MORGAN**  
**C/O APPLIED TECHNOLOGY & MANAGEMENT, INC.**  
**260 WEST COLEMAN BOULEVARD**  
**MT. PLEASANT, SOUTH CAROLINA 29464**

for a permit to perform dredging and redevelopment at an existing industrial site in waters of

**THE SHIPYARD RIVER AND COOPER RIVER**

at 1801 Milford Street, Charleston, in Charleston County, South Carolina  
(Latitude: 32.82778; Longitude: 79.93833).

In order to give all interested parties an opportunity to express their views

**NOTICE**

is hereby given that written statements regarding the proposed work will be received by both of the above mentioned offices until

**12 O'CLOCK NOON, MONDAY, NOVEMBER 13, 2006**

from those interested in the activity and whose interests may be affected by the proposed work.

This revised permit application includes some recent design changes to the initial Kinder Morgan (KM) permit application originally advertised on September 16, 2005. Supplemental information was also provided to agencies and the public for the original project on December 2, 2005 and February 24, 2006. Design changes from the original project include:

- Rail layout redesigned to eliminate all fill and construction impacts to wetlands (which requires pulling up existing tracks and complete work stoppage);
- Dock and berth realignments (which increases dredge quantities):
  - Dock 3 (Shipyard River): Realigned to tie in with existing Salmons' dock
  - Dock 4 (Cooper River): Shifted north to allow existing fuel barge operations;

- Retaining existing fuel barge dock (as opposed to demolishing and creating one in a new location).

The changes are described in detail below. A revised mitigation plan is under development to address all the proposed impacts for the project.

## **PROJECT DESCRIPTION**

The Kinder Morgan Shipyard River Terminal (SRT) is a "transload" facility that provides materials handling services for dry and liquid bulk; which includes aggregate, cement, coal, coke, salt, pumice, asphalt and fertilizer. The transloading service provided at the SRT is primarily ship-to-rail.

The proposed project involves expanding the existing SRT to store and transfer more coal as well as accommodate larger coal ships and more trains. Existing maximum throughput with existing infrastructure is 3.5 million tons per year and this will be met in 2006. The proposed expansion project includes a 10 million tons coal/year maximum throughput capacity and is expected to be met in 3 to 5 years.

Kinder Morgan will maintain their existing operations (coal, petroleum coke and other bulk cargo) as well as the former Allied Terminals operations (liquids); however, the berthing and conveyance facilities will be relocated and redeveloped. No new materials are proposed to be handled at the project site; rather, the location where materials are loaded, offloaded, and conveyed will change.

Impacts associated with the proposed project include dredging, demolition and redevelopment of existing berthing facilities, and impacts to tidal wetlands. The applicant has permission from the SCSPA to dispose of the dredged material in the Clouter Creek Confined Disposal Facility; however the applicant is now proposing the Daniel Island CDF as an alternative, closer location.

**Project Summary:** The following summary itemizes the proposed improvements for Docks 2, 3, 4 and landside. No changes will occur at Dock 1. Dock 2 is located within the existing limits of the SRT and is on Shipyard River. Dock 3 is proposed at the existing wharf of the former Salmons' facility in Shipyard River. Dock 4 was formerly Allied's dock in the Cooper River.

## **Waterside Improvements**

### **Dock 2**

- Remove 2 existing fixed hoppers and install 2 traveling hoppers on existing rail;
- Install 2 land-based mooring dolphins to accommodate larger ships;
- Replace existing cleats with mooring bollards and repair existing fendering to accommodate larger ships;
- Construct a 20 ft x 128 ft equipment ramp from the shore to access existing dock;
- Remove existing liquids handling equipment and pipes; and
- Install 2 barge-mounted and shore-powered electric cranes.

**Dock 3 (liquids handling will relocate from Dock 2 to Dock 3)**

- Demolish existing mooring (concrete marginal wharf) structure at Salmons immediately adjacent to a tidal slough on the west bank of Shipyard River;
- Hydraulically dredge approximately 159,000 cy of material (5.9 acres at dredge depth of -42.0 ft MLW; approximately 0.13 acres of dredge area is currently tidal wetland and will be excavated);
- Excavate approximately 5,000 cy of upland (0.3 acres) for berth creation;
- Construct a 811 ft long sheet pile bulkhead to minimize sloughing and decrease sideslopes;
- Construct a pile supported 40 ft x 40 ft liquids handling dock platform for a hose tower;
- Construct a 50 ft x 70 ft boat/barge loading ramp;
- Construct a landside crane access along 153 feet of sheetpile; and
- Construct pile supported structures to secure ships including: two 20 ft x 20 ft breasting dolphins on uplands and one 20 ft x 20 ft breasting dolphin in tidal wetland (0.01 acres shading); one shore dolphin (no impacts); and three mono-pile mooring dolphins to be located over tidal wetland or water.

**Dock 4 (former Allied Terminals Bulk Dock on Cooper River)**

- Hydraulically dredge approximately 27,000 cy of material (4.8 acres at dredge depth of -47.0 ft MLW; no loss of tidal marsh will occur);
- Remove 8 of the 13 existing liquid transport pipes (2.02 acres of total structure removal; 0.45 acres restoration/enhancement through removal of shading);
- Existing pipeline support structures (bents) will be left in place to support approximately 1,930 lf new conveyor (approx. 800 lf over tidal wetlands, 0.11 acres shading impacts);
- Install 11 new concrete pile-supported bents (0.01 acres shading) to support westernmost 380 lf of new conveyor;
- Construct new pile supported 58 ft x 610 ft fixed concrete dock;
- Construct four new 8 ft x 8 ft mono-pile mooring dolphins and 4 ft wide access walkways (375 lf total);

**Bunker (Fuel) Barge Dock (behind Dock 4)**

- Retain existing bunker barge dock;
- Install four mono-pile mooring/breasting dolphins for barge dock; and
- Install 5 turning dolphins for barges to allow safe operation and protection of existing North Charleston Sewer District outfall and Dock 4.

**Land Side Improvements**

- Remove 14 liquids storage tanks in existing KM tank farm;
- Construct an earthen berm around 25 acres of area currently in use as a tank farm to use for coal storage;
- Expand stormwater treatment pond for the additional coal storage area;
- Construct a shuttle conveyor for coal transport;
- Construct an access road and truck overpass from Greenleaf Street;
- Construct an egress tunnel leading northeast through the earthen berm from the conveyor area to the railroad;



- Add (approx.) 26,600 lf of railway (no tidal wetlands will be impacted); and
- Construct liquid pipe rack from new Dock 3 to existing tank farm on former Allied property.

#### **COAL:**

Current annual coal throughput capacity at Kinder Morgan is 3.5 million tons and this capacity is scheduled to be reached in 2006. When the project is completed, estimated annual throughput capacity will be 10 million tons. Coal transferred at Kinder Morgan primarily ends up at electric generating plants in South Carolina, North Carolina, and Georgia. The total coal storage capacity after project completion is estimated to be 700,000 tons. The additional coal storage area will cover 20 acres and coal piles will have an average height of 40 feet and a maximum height of 80 feet (coal piles cannot exceed this height because of proposed and existing transfer tower, chute and conveyor limitations). In order to minimize dust levels, Kinder Morgan proposes to utilize dust suppression technologies which include:

- Telescoping product chutes (reducing the distance product has to travel before reaching the ground).
- Covered conveyor systems which transport products to storage.
- Use of water-suppression systems to minimize dust

#### **VESSEL TRAFFIC:**

**Current Conditions:** In 2005, 25 coal vessels called on Kinder Morgan and brought in 1.14 million tons of coal (64 vessels and 3.5 million tons are estimated for 2006). Upon arrival at the terminal dock, the ship's main propulsion engine is shut down. An onboard generator then supplies power for lights, air conditioning, and vital ship functions (hotelling). The fuel demand for hotelling is approximately 20 gallons/hr.

A second onboard generator powers the ship's cranes used to unload the coal. The fuel demand for this generator is approximately 40 gallons/hour (for a total of 60 gal/hr). The generators burn marine diesel fuel out of the ship's day tank. In 2005, a coal ship was at the dock 107 hours each call, on average.

**Post Project Conditions:** In order to supply the increased volume of coal handled at the site, ship traffic is anticipated to increase to 1 – 1.4 ships/week. Currently, KM receives approximately 190 vessels per year of various products, including coal ships. Potential maximum coal vessel calls will total approximately 133 ships/year after project completion (64 vessels in 2006 + an estimated 69 after project completion). Post-project vessels will also be larger (~75,000 tons). Upon arrival at the terminal dock, the ship's main propulsion engine is shut down. An onboard generator then supplies power for lights, air conditioning, and vital ship functions (hotelling). The fuel demand for hotelling is approximately 20 gallons/hr.

The coal will be unloaded using larger, electric powered cranes owned by Kinder Morgan. Shipboard cranes will no longer be used. Due to the larger, more efficient cranes, a coal ship will be at the dock an average of only 72 hours per call. The Proposed Project improvements are expected to result in a net decrease in approximately 219,000 gallons per year of marine diesel combustion.

## RAIL TRAFFIC:

**On-site Train Movement.** Currently KM uses two small locomotives on site and an average of one unit train of 100 cars per day is released from the site. Currently, a train must be broken into sections, loaded and re-hooked which takes approximately 12 hours. In this process each locomotive burns about 10 gallons of diesel fuel per hour. After construction, Kinder Morgan expects to use one large locomotive and will load and release an average of 2.6 trains of coal per day. The process of breaking, loading and re-hooking 260 cars with the new rail layout is estimated to take approximately 16 hours and the one large locomotive used for this process will burn approximately 20 gallons of diesel fuel per hour during the process. Thus, for trains, 112,000 gallons of diesel fuel will be combusted each year as opposed to 84,000 gallons currently.

**Off-site Train Movement.** KM conducted a survey of existing operations and an assessment of the anticipated change in noise and crossing time for trains with the Proposed Project. The delay at Meeting Street will be increased from 48 minutes per day to 52 minutes per day even though the number of trains will increase by 1.6 unit trains (160 cars) per day operating at the site. Trains at the Meeting Street crossing are assumed to travel at 6 mph.

After trains leave the yard and accelerate to the posted speeds (20 mph limit in urban areas), it is anticipated that the trains will take approximately 7.5 minutes to clear each crossing. A unit train (100 rail cars) that services the Kinder Morgan facility is approximately one mile long (5,280 ft). Using an assumed speed of 10 mph, it requires 6.0 minutes for a coal train to pass each at-grade rail crossing. Assuming that the crossing control signal activates 60 seconds prior to the arrival of trains at the crossing and de-activates 30 seconds after passages, the total delay per coal train per crossing is estimated to be 7.5 minutes per train.

Trains leaving the site travel via either Norfolk & Southern or CSX tracks. The sequence of at grade railroad crossings is as follows:

Railroad Crossing Information:	
Norfolk Southern and CSX affected crossings	
	Meeting Street
	Cherry Hill
	Misroon
	Accabee
	Dorchester Road
	Montague*
	Taylor*
	Remount*
	Remount*

\*Note: These crossings are at different locations for CSX and NS.

At present there are three train routes out of Charleston (one Norfolk Southern and two CSX). Norfolk Southern has a speed limit of 20 mph until the Jet Park crossing and then trains may accelerate to 49 mph. The CSX line has similar speed requirements. Approximately 60 percent of trains will be serviced by CSX and 40 percent serviced by NS.

Background noise levels were measured to be 50 dBa and increased to 65 dBa with a train moving at the property line of a residence near an on-site rail car holding area. Trains leaving the yard and crossing Meeting Street produced an 80 to 85 dBa reading which increased to 115 dBa when train horns were blown. Similar impacts would be expected at other crossings. Exposure to noise from trains would be limited to 2.6 trains per day (1.6 more than the current train with an occurrence of less than one hour exposure per day to businesses and residences).

## 2.0 IMPACT SUMMARY

The entire project area is currently under heavy use by industrial operations including coal-bearing trains and other rail traffic, lime processing, petroleum off loading and storage, and marine construction. Despite efforts to avoid and minimize wetland encroachments, some impacts to wetlands are unavoidable due to the water-dependent nature of the berthing facilities.

As currently proposed, 11.15 acres of U.S. waters (including 0.13 acres of tidal wetlands) will be impacted by the project. No freshwater wetlands will be affected by the plans. The following tables summarize the quantity and nature of the proposed impacts.

**Table A-1: Type and Quantity of Fill Materials to be Used**

Material	Project Component	Cubic Yards	Previous Project Cubic Yards
Dirt/Topsoil			
Clean Sand			4,350
Mud			
Clay			
Gravel/Rock/Stone			225
Concrete			50
Total		0	4,625

Note: Due to berth and rail realignments, no fill is required in U.S. waters (including wetlands).



**Table A-2: Type and Quantity of Impacts to U.S. Waters (including wetlands)**

<b>Material</b>	<b>Project Component</b>	<b>Acres</b>	<b>Cubic Yards</b>	<b>Previous Acres</b>	<b>Previous Cubic Yards</b>
Filling	Railroad	-	-	0.38	4,625
Backfill and Bedding					
Landclearing					
Dredging or Excavation	Dredge Sites 1 and 2	11.02	185,700	5.44	121,000
Flooding					
Draining					
Shading	Catwalks, conveyor, bents	0.13	N/A	0.16	N/A
<b>Total</b>		<b>11.15</b>	<b>185,700</b>	<b>5.98</b>	<b>125,625</b>

**Table A-3: Type and Quantity of Impacts to Tidal Wetlands (Critical Area)**

<b>Material</b>	<b>Project Component</b>	<b>Acres</b>	<b>Cubic Yards</b>	<b>Previous Acres</b>	<b>Previous Cubic Yards</b>
Filling	Railroad			0.38	4,625
Backfill and Bedding					
Landclearing					
Dredging or Excavation	Dredge Site	0.13	9,000	0.13	10,000
Flooding					
Draining					
Shading	Catwalks, conveyor, bents	0.13	N/A	0.16	N/A
<b>Total</b>		<b>0.26</b>	<b>9,000</b>	<b>0.67</b>	<b>14,625</b>

Design modifications to avoid/minimize impacts to tidal wetlands and reuse or remove existing structures are ongoing. To date (August 25, 2006), planned efforts include:

- Reducing the elevation of the top of the sheetpile bulkhead at Dock 3 to allow unimpeded tidal flow into the slough;
- Locating Dock 3 as far east as allowable given Federal channel offsets in order to reduce Critical Area impacts associated with berth dredging;

- Pulling up existing rail and temporarily stopping all rail transfers to place down 2 rail lines which eliminates all impacts (including construction) to tidal wetlands; and
- Removal of all but 5 existing liquid transfer pipelines at Dock 4 and re-using existing support structures (bents) for new conveyor. Conveyor transfer tower has been sited on existing derelict structures in tidal wetlands to avoid new impacts.

The purpose of the proposed project is the same as explained in the original public notice - to increase the efficiency of material conveyance and storage at the Shipyard River Terminal via the redevelopment of existing facilities as well as adjacent facilities currently owned by Salmon's Dredging Corporation and Allied Terminals, Inc.

**NOTE: Plans depicting the work described in this notice are available and will be provided, upon receipt of a written request, to anyone that is interested in obtaining a copy of the plans for the specific project. The request must identify the project of interest by public notice number and a self-addressed stamped envelope must also be provided for mailing the drawings to you. Your request for drawings should be addressed to the**

**U.S. Army Corps of Engineers  
ATTN: REGULATORY DIVISION  
69A Hagood Avenue  
Charleston, South Carolina 29403-5107**

The District Engineer has concluded that the discharges associated with this project, both direct and indirect, should be reviewed by the South Carolina Department of Health and Environmental Control in accordance with provisions of Section 401 of the Clean Water Act. As such, this notice constitutes a request, on behalf of the applicant, for certification that this project will comply with applicable effluent limitations and water quality standards. The work shown on this application must also be certified as consistent with applicable provisions the Coastal Zone Management Program (15 CFR 930). The District Engineer will not process this application to a conclusion until such certifications are received. The applicant is hereby advised that supplemental information may be required by the State to facilitate the review.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. Implementation of this revision will impact 11.15 acres of U.S. waters including 0.13 acres of estuarine substrates and emergent wetlands utilized by various life stages of species comprising the red drum, shrimp, and snapper-grouper management complexes. Our initial determination is that the proposed action would not have a *substantial individual or cumulative adverse impact on EFH or fisheries* managed by the South Atlantic Fishery Management Council and the National Marine Fisheries Service (NMFS). Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the NMFS.

Pursuant to Section 7(c) of the Endangered Species Act of 1973 (as amended), the District Engineer has consulted the most recently available information and has determined that the project is not likely to adversely affect any Federally endangered, threatened, or proposed species or result in the destruction or adverse modification of designated or proposed critical habitat. This public notice serves as a request for written concurrence from the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service on this determination.



The District Engineer has consulted the latest published version of the National Register of Historic Places for the presence or absence of registered properties, or properties listed as being eligible for inclusion therein, and this worksite is not included as a registered property or property listed as being eligible for inclusion in the Register. Consultation of the National Register constitutes the extent of cultural resource investigations by the District Engineer, and he is otherwise unaware of the presence of such resources. Presently unknown archaeological, scientific, prehistorical, or historical data may be lost or destroyed by the work to be accomplished under the requested permit.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state, with particularity, the reasons for holding a public hearing.

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the activity on the public interest and will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency (EPA), under authority of Section 404(b) of the Clean Water Act, as amended. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the project must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the project will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. A permit will be granted unless the District Engineer determines that it would be contrary to the public interest. In cases of conflicting property rights, the Corps of Engineers cannot undertake to adjudicate rival claims.

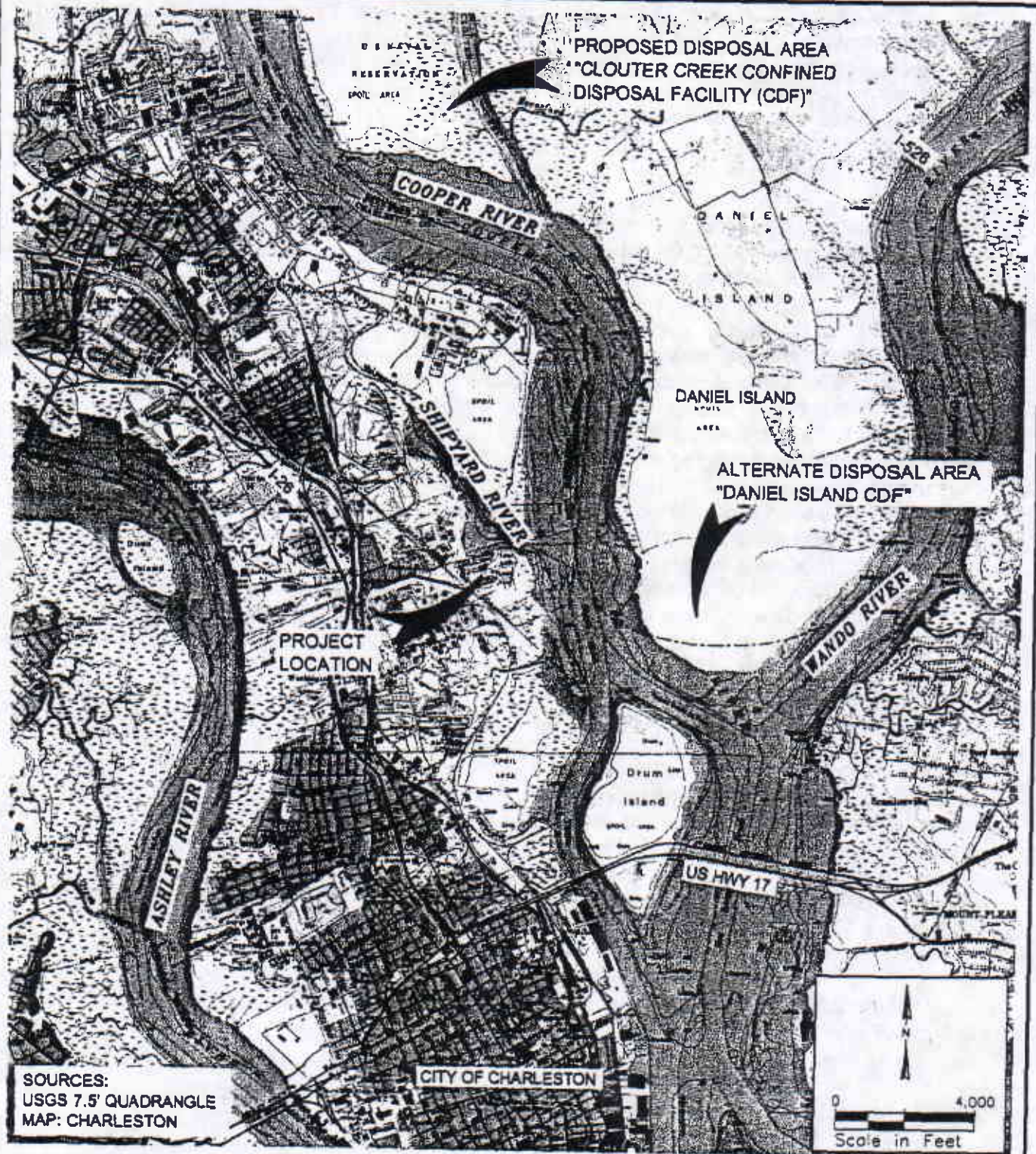
The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this project. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

If there are any questions concerning this public notice, please contact Robin Collier-Socha at 843-329-8044 or toll free at 1-866-329-8187.

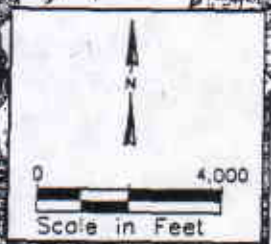
**BMI Eiser**  
**Project Manager**  
**SCDHEC-OCRM**



FOR PERMITTING PURPOSES ONLY  
 "NOT FOR CONSTRUCTION"



SOURCES:  
 USGS 7.5' QUADRANGLE  
 MAP: CHARLESTON



PURPOSE: TERMINAL EXPANSION  
 DATUM: MLW  
 APPLICATION BY: KINDER MORGAN  
 USACE  
 ADJACENT PROPERTY OWNERS:  
 SEE EXHIBIT B  
 DATE: 8/25/06

### LOCATION MAP

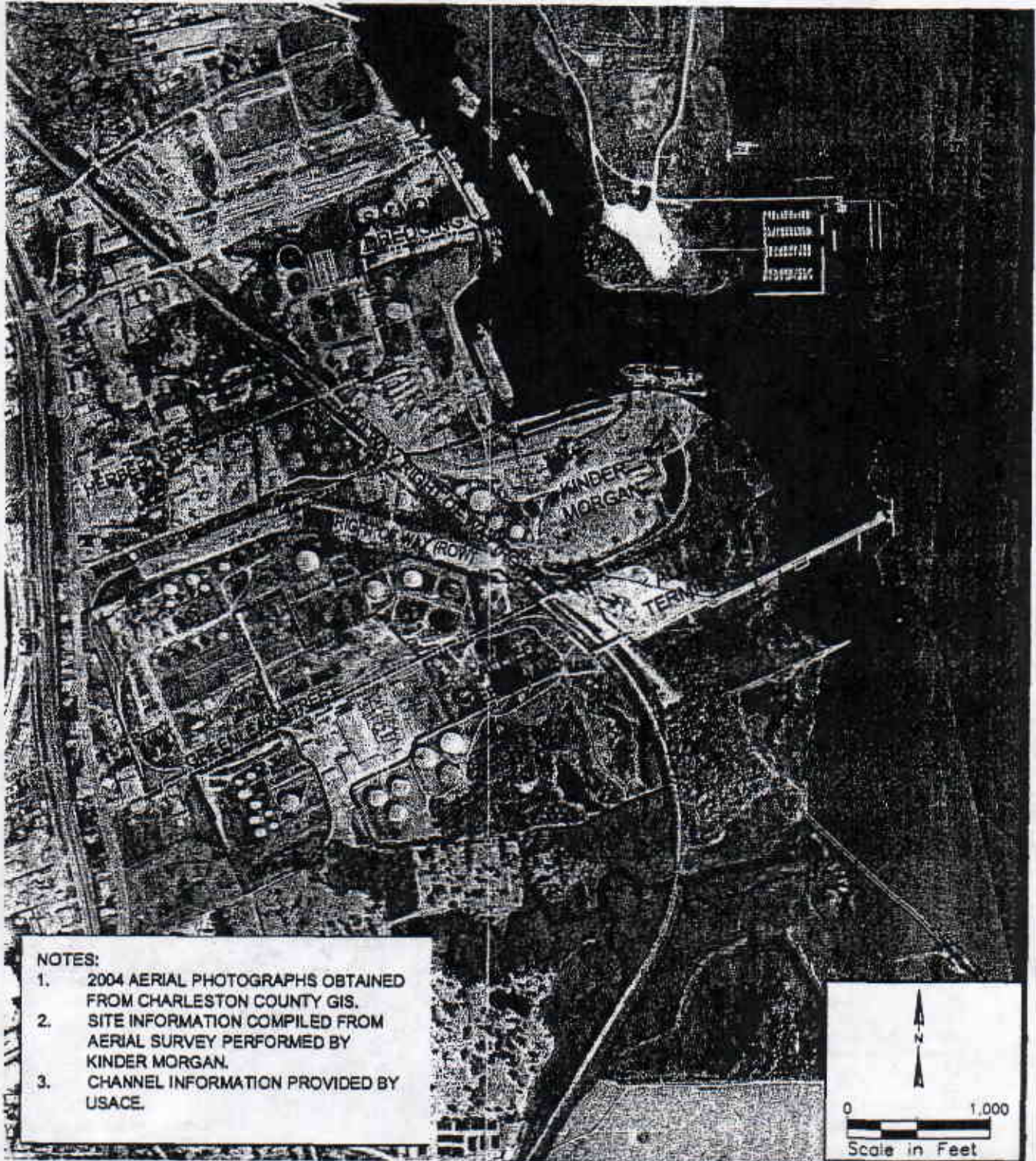
KINDER MORGAN  
 1801 MILFORD STREET  
 CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
 OF MOORING FACILITIES, IMPACTS TO  
 TIDAL WETLANDS  
 IN: SHIPYARD RIVER AND COOPER RIVER  
 AT: KINDER MORGAN SHIPYARD RIVER  
 TERMINAL, CITY OF CHARLESTON  
 COUNTY OF: CHARLESTON  
 STATE: SOUTH CAROLINA SHEET 1

2005-2W-286-PC (revised)



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"NOT FOR CONSTRUCTION"



**NOTES:**

1. 2004 AERIAL PHOTOGRAPHS OBTAINED FROM CHARLESTON COUNTY GIS.
2. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
3. CHANNEL INFORMATION PROVIDED BY USACE.

PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

**VICINITY MAP AND  
PROJECT PARCEL PLAN**

KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS

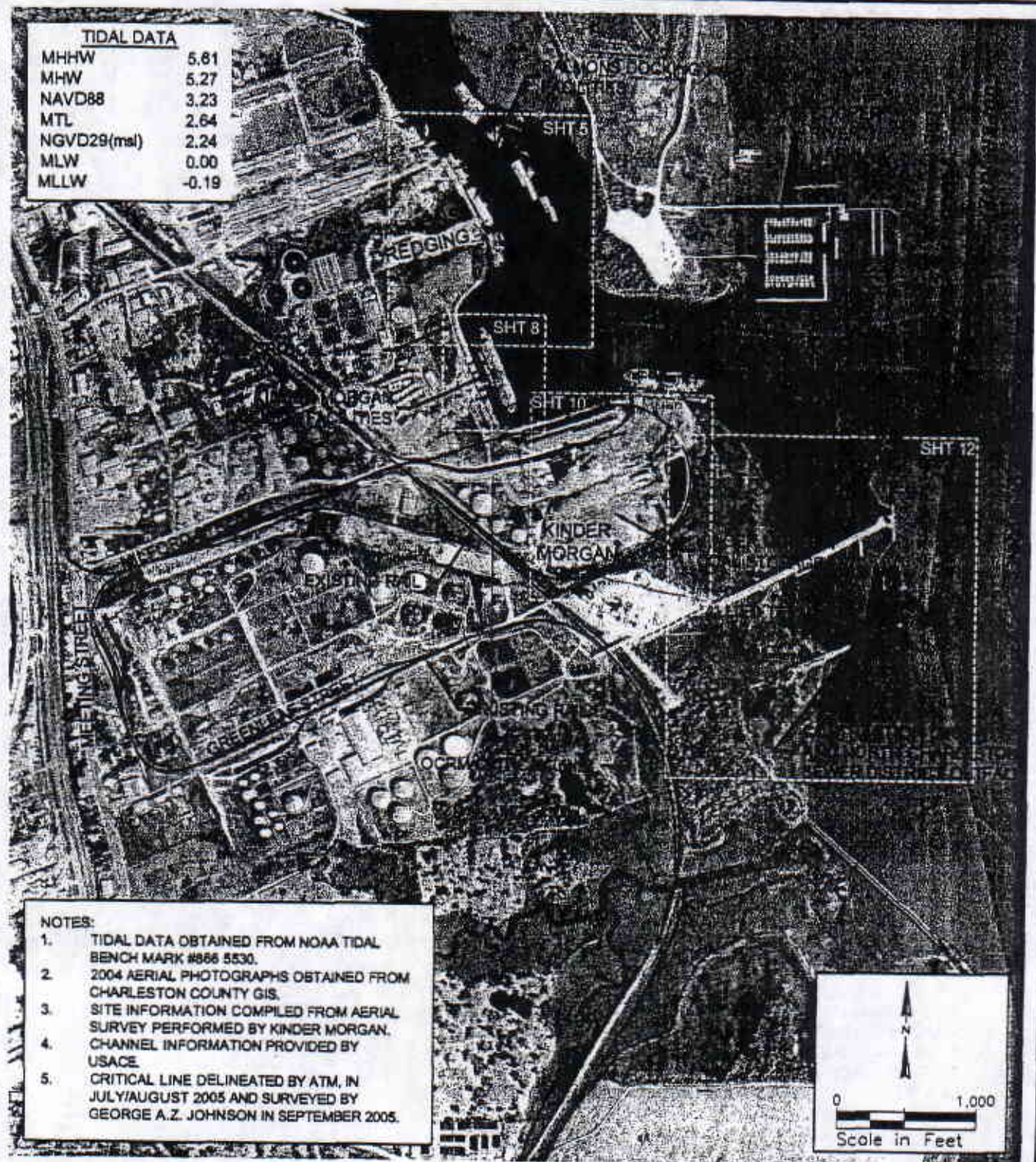
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA SHEET 2

2005-2W-286-A (revised)



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TIDAL DATA	
MHHW	5.81
MHW	5.27
NAVD88	3.23
MTL	2.64
NGVD29(msl)	2.24
MLW	0.00
MLLW	-0.19



**NOTES:**

1. TIDAL DATA OBTAINED FROM NOAA TIDAL BENCH MARK #866 5530.
2. 2004 AERIAL PHOTOGRAPHS OBTAINED FROM CHARLESTON COUNTY GIS.
3. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
4. CHANNEL INFORMATION PROVIDED BY USACE.
5. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

PURPOSE: TERMINAL EXPANSION  
 DATUM: MLW  
 APPLICATION BY: KINDER MORGAN  
 USAGE: #  
 ADJACENT PROPERTY OWNERS:  
 SEE EXHIBIT 8  
 DATE: 8/25/06

**EXISTING CONDITIONS  
OVERALL/KEY PLAN**

KINDER MORGAN  
 1801 MILFORD STREET  
 CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
 OF MOORING FACILITIES, IMPACTS TO  
 TIDAL WETLANDS  
 IN: SHIPYARD RIVER AND COOPER RIVER  
 AT: KINDER MORGAN SHIPYARD RIVER  
 TERMINAL, CITY OF CHARLESTON  
 COUNTY OF: CHARLESTON  
 STATE: SOUTH CAROLINA

SHEET 3

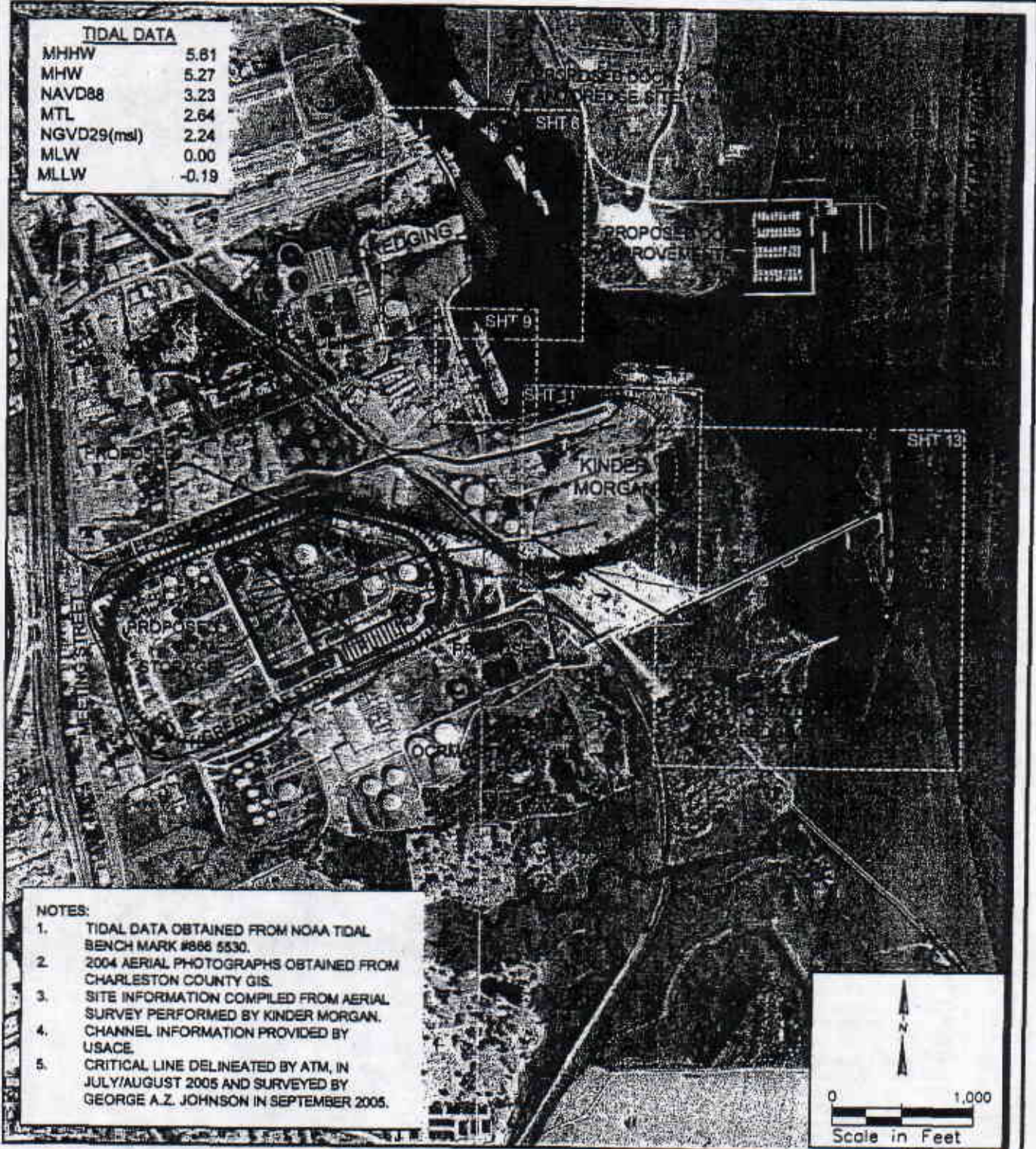
2005-20-286-P (revised)

PERMIT-A-SECTIONS.DWG 8/25/06



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"NOT FOR CONSTRUCTION"

TIDAL DATA	
MHHW	5.61
MHW	5.27
NAVD88	3.23
MTL	2.64
NGVD29(msl)	2.24
MLW	0.00
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PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

PROPOSED IMPROVEMENTS  
OVERALL/KEY PLAN

KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

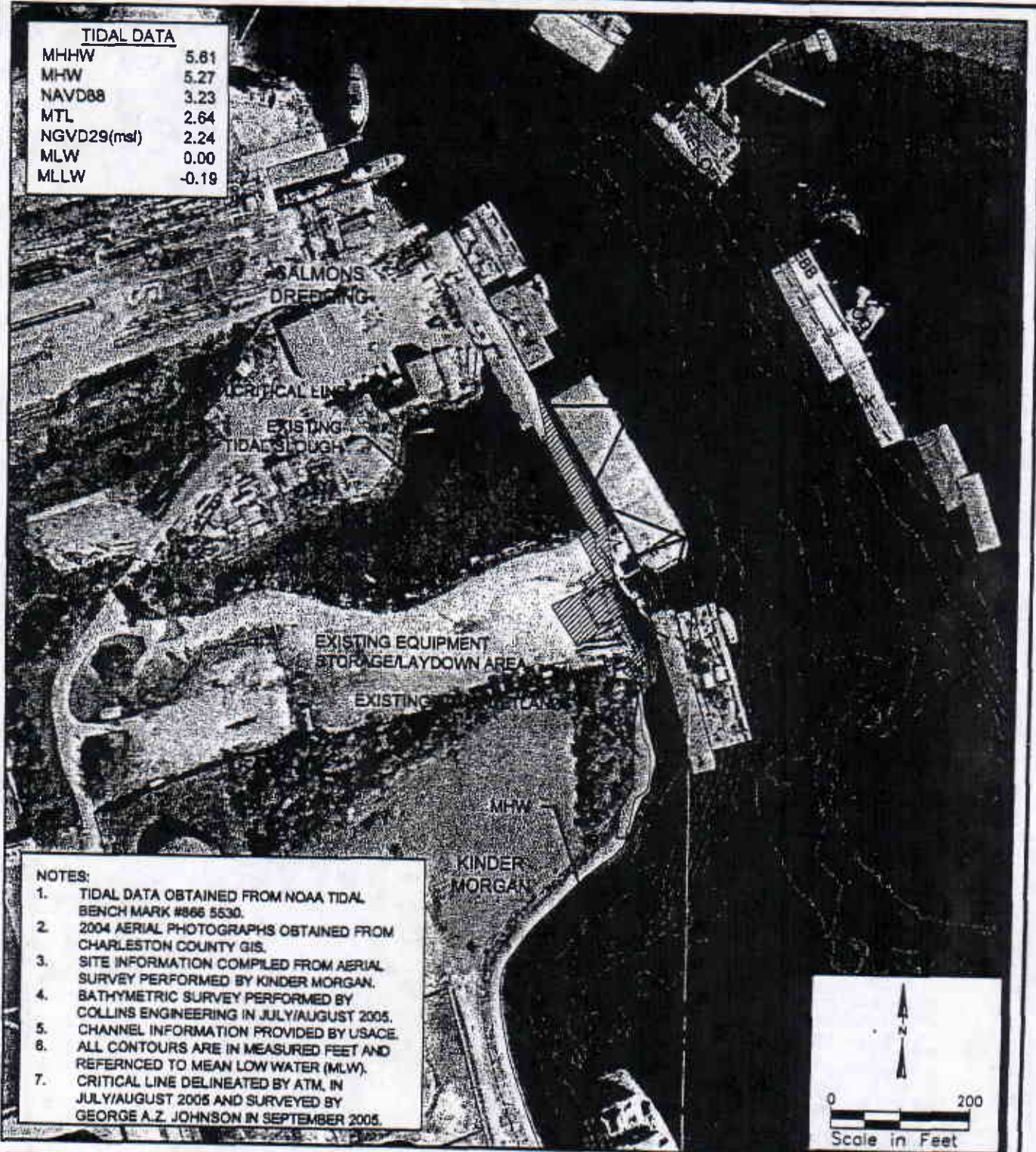
PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA  
SHEET 4

2005-2W-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
 "NOT FOR CONSTRUCTION"

TIDAL DATA	
MHHW	5.81
MHW	5.27
NAVD88	3.23
MTL	2.64
NGVD29(msl)	2.24
MLW	0.00
MLLW	-0.19



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3. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
4. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
5. CHANNEL INFORMATION PROVIDED BY USACE.
6. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
7. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

PURPOSE: TERMINAL EXPANSION  
 DATUM: MLW  
 APPLICATION BY: KINDER MORGAN  
 USACE #  
 ADJACENT PROPERTY OWNERS:  
 SEE EXHIBIT B  
 DATE: 8/25/06

EXISTING CONDITIONS  
 DOCK 3  
 DREDGE SITES 1A & 1B  
 KINDER MORGAN  
 1801 MILFORD STREET  
 CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
 OF MOORING FACILITIES, IMPACTS TO  
 TIDAL WETLANDS  
 IN: SHIPYARD RIVER AND COOPER RIVER  
 AT: KINDER MORGAN SHIPYARD RIVER  
 TERMINAL, CITY OF CHARLESTON  
 COUNTY OF: CHARLESTON  
 STATE: SOUTH CAROLINA

SHEET 3

2005-2W-286-P (revised)

PERMIT-A-SECTIONS.DWG 8/25/06



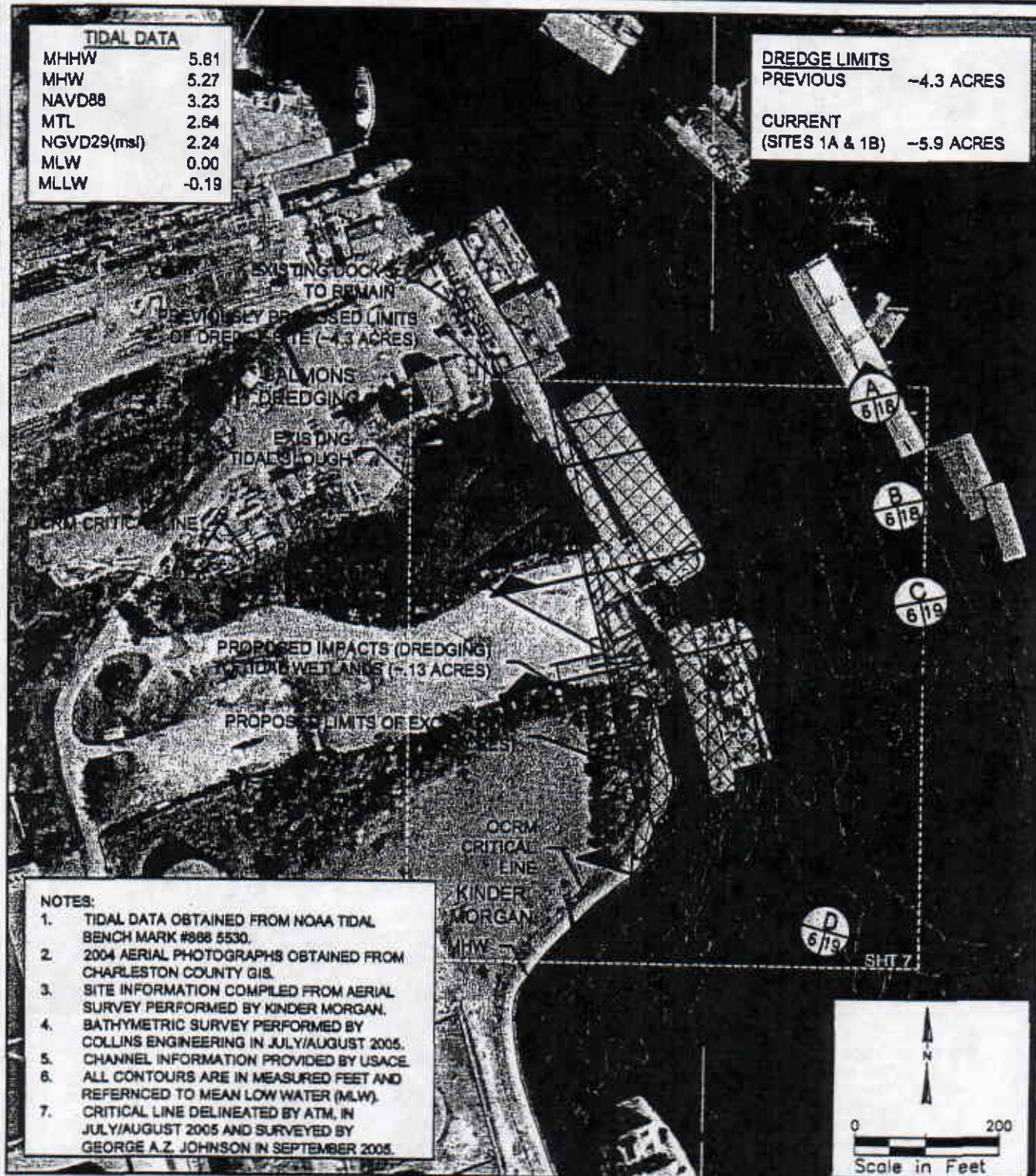
FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"

**TIDAL DATA**

MHHW	5.61
MHW	5.27
NAVD88	3.23
MTL	2.64
NGVD29(msl)	2.24
MLW	0.00
MLLW	-0.19

**DREDGE LIMITS**

PREVIOUS	~4.3 ACRES
CURRENT (SITES 1A & 1B)	~5.9 ACRES



**NOTES:**

1. TIDAL DATA OBTAINED FROM NOAA TIDAL BENCH MARK #888 5530.
2. 2004 AERIAL PHOTOGRAPHS OBTAINED FROM CHARLESTON COUNTY GIS.
3. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
4. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
5. CHANNEL INFORMATION PROVIDED BY USACE.
6. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
7. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B

DATE: 8/25/06

PROPOSED IMPROVEMENTS  
DOCK 3  
DREDGE SITES 1A & 1B

KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS

IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA

SHEET 8

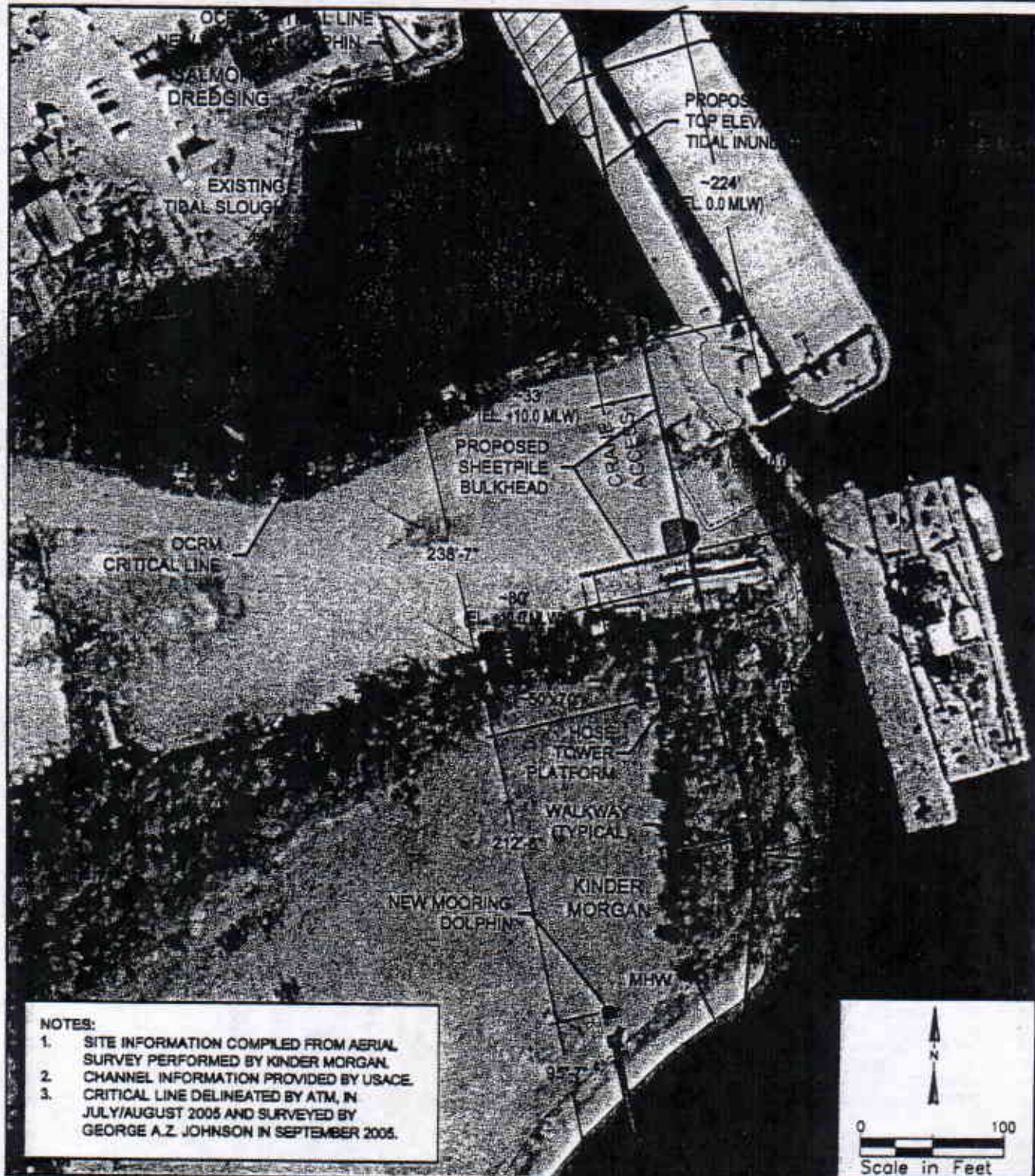
8/25/06

PERMIT-A-SECTIONS.DWG

2005-2W-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



NOTES:

1. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
2. CHANNEL INFORMATION PROVIDED BY USACE.
3. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B

DATE: 8/25/06

PROPOSED IMPROVEMENTS  
DOCK 3 WITH DIMENSIONS

KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS

IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA

SHEET 7

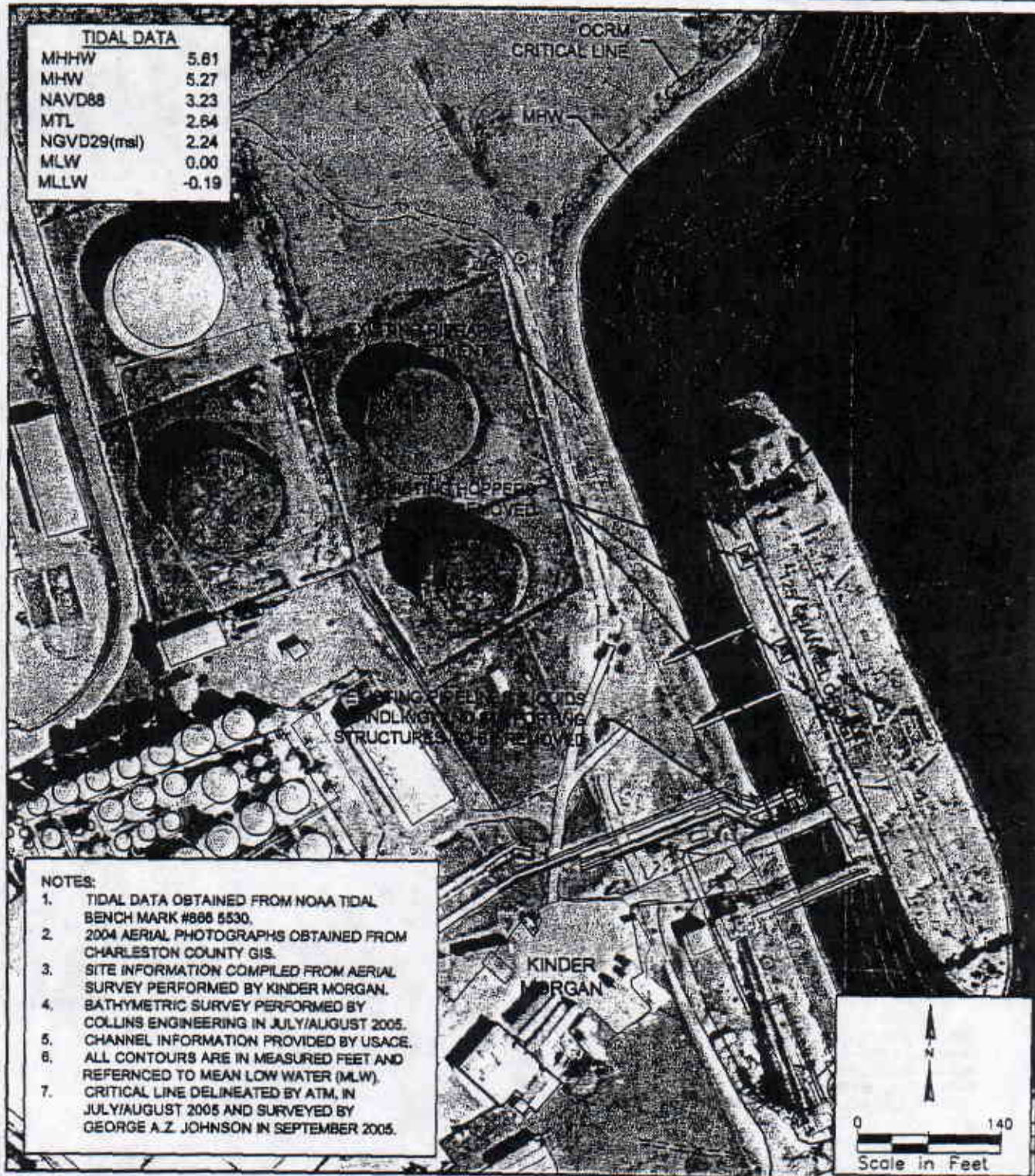
2005-2W-286-P (revised)

8/25/06

PERMIT-A-SECTIONS DWG



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



PURPOSE: TERMINAL EXPANSION  
 DATUM: MLW  
 APPLICATION BY: KINDER MORGAN  
 USACE #  
 ADJACENT PROPERTY OWNERS:  
 SEE EXHIBIT B  
 DATE: 8/25/06

EXISTING CONDITIONS  
DOCK 2

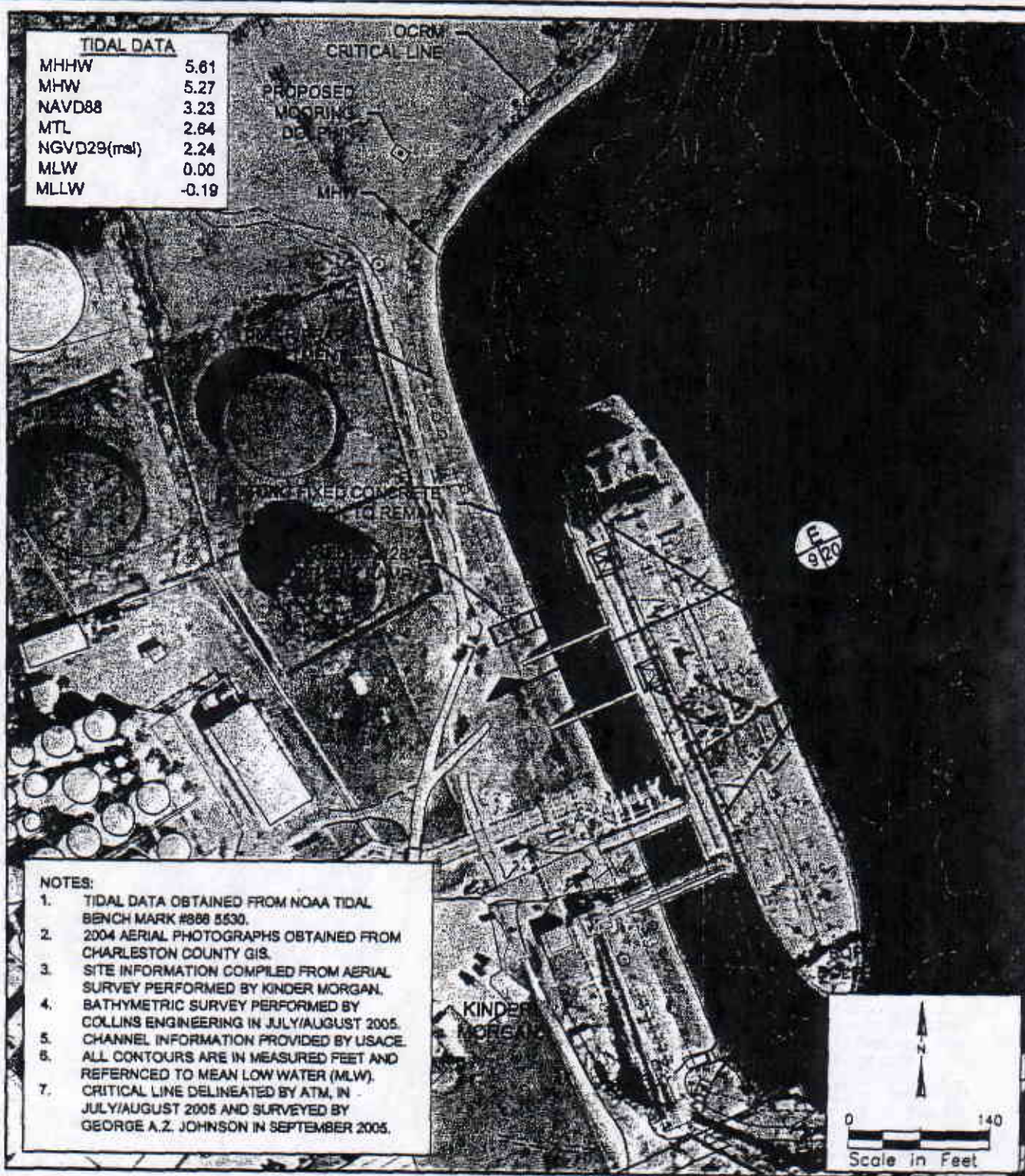
KINDER MORGAN  
 1801 MILFORD STREET  
 CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
 OF MOORING FACILITIES, IMPACTS TO  
 TIDAL WETLANDS  
 IN: SHIPYARD RIVER AND COOPER RIVER  
 AT: KINDER MORGAN SHIPYARD RIVER  
 TERMINAL, CITY OF CHARLESTON  
 COUNTY OF: CHARLESTON  
 STATE: SOUTH CAROLINA SHEET 8

2005-2W-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



PURPOSE: TERMINAL EXPANSION  
 DATUM: MLW  
 APPLICATION BY: KINDER MORGAN  
 USACE #  
 ADJACENT PROPERTY OWNERS:  
 SEE EXHIBIT B  
 DATE: 8/25/06

PROPOSED IMPROVEMENTS  
DOCK 2

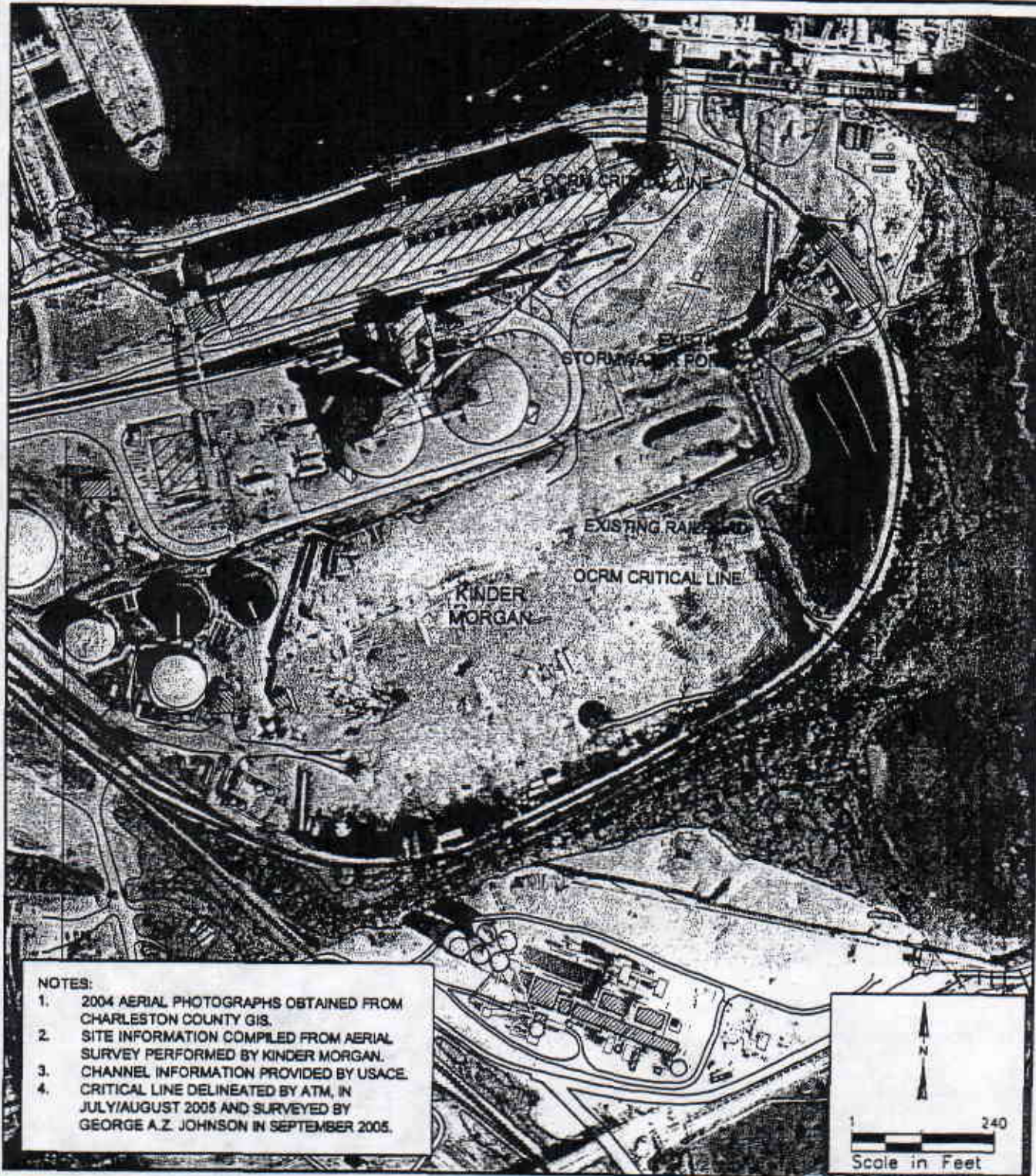
KINDER MORGAN  
 1801 MILFORD STREET  
 CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT OF MOORING FACILITIES, IMPACTS TO TIDAL WETLANDS  
 IN: SHIPYARD RIVER AND COOPER RIVER  
 AT: KINDER MORGAN SHIPYARD RIVER TERMINAL, CITY OF CHARLESTON  
 COUNTY OF: CHARLESTON  
 STATE: SOUTH CAROLINA  
 SHEET 9

2005-2W-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
 "NOT FOR CONSTRUCTION"



PURPOSE: TERMINAL EXPANSION  
 DATUM: MLW  
 APPLICATION BY: KINDER MORGAN  
 USACE #  
 ADJACENT PROPERTY OWNERS:  
 SEE EXHIBIT B  
 DATE: 8/25/06

EXISTING CONDITIONS  
 EAST RAILROAD  
 NEAR OCRM CRITICAL LINE  
 KINDER MORGAN  
 1801 MILFORD STREET  
 CHARLESTON, SC 29405

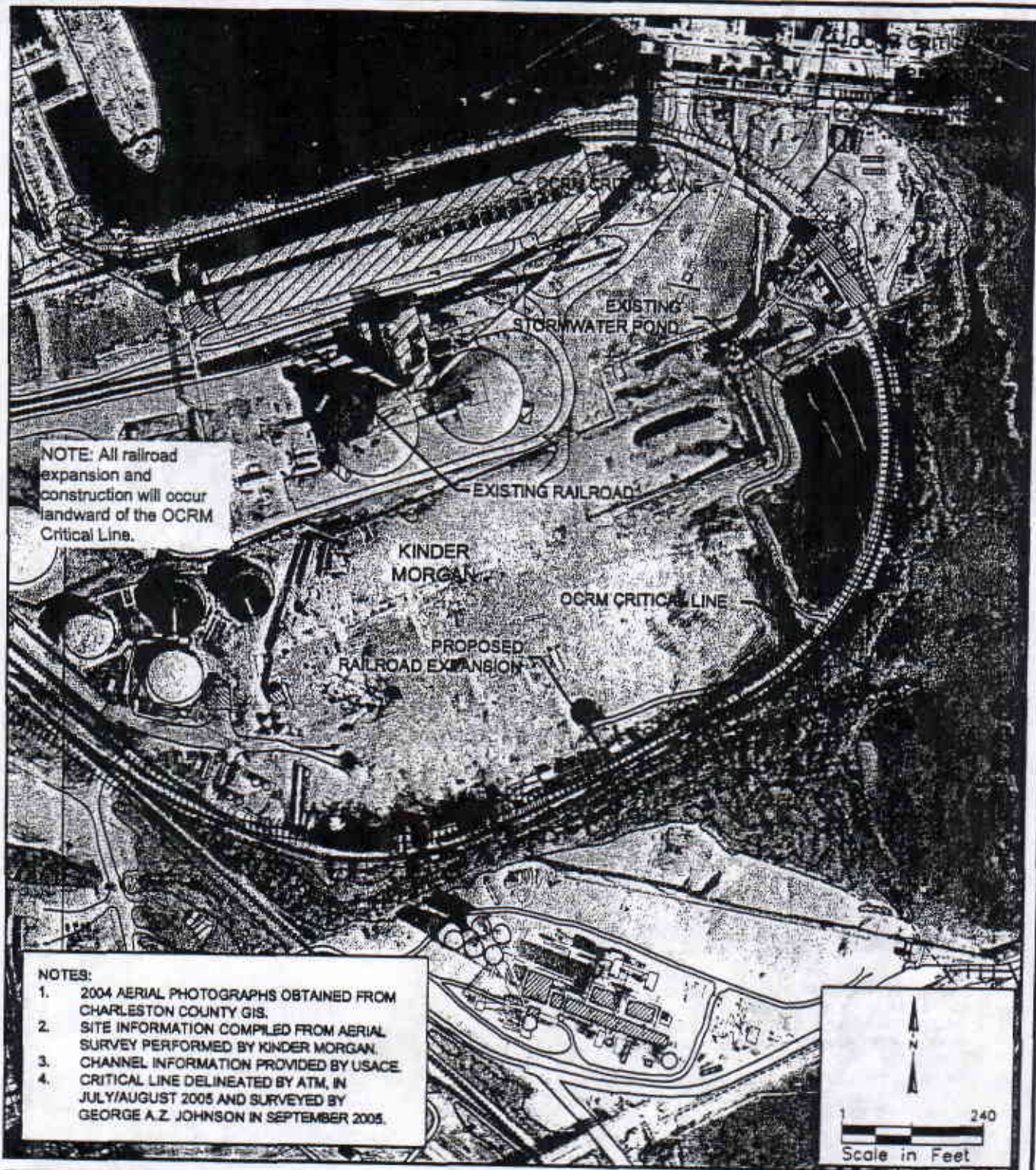
PROPOSED: DREDGING, REDEVELOPMENT  
 OF MOORING FACILITIES, IMPACTS TO  
 TIDAL WETLANDS  
 IN: SHIPYARD RIVER AND COOPER RIVER  
 AT: KINDER MORGAN SHIPYARD RIVER  
 TERMINAL, CITY OF CHARLESTON  
 COUNTY OF: CHARLESTON  
 STATE: SOUTH CAROLINA

SHEET 10

2005-2W-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

PROPOSED IMPROVEMENTS  
EAST RAILROAD  
NEAR OCRM CRITICAL LINE  
KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

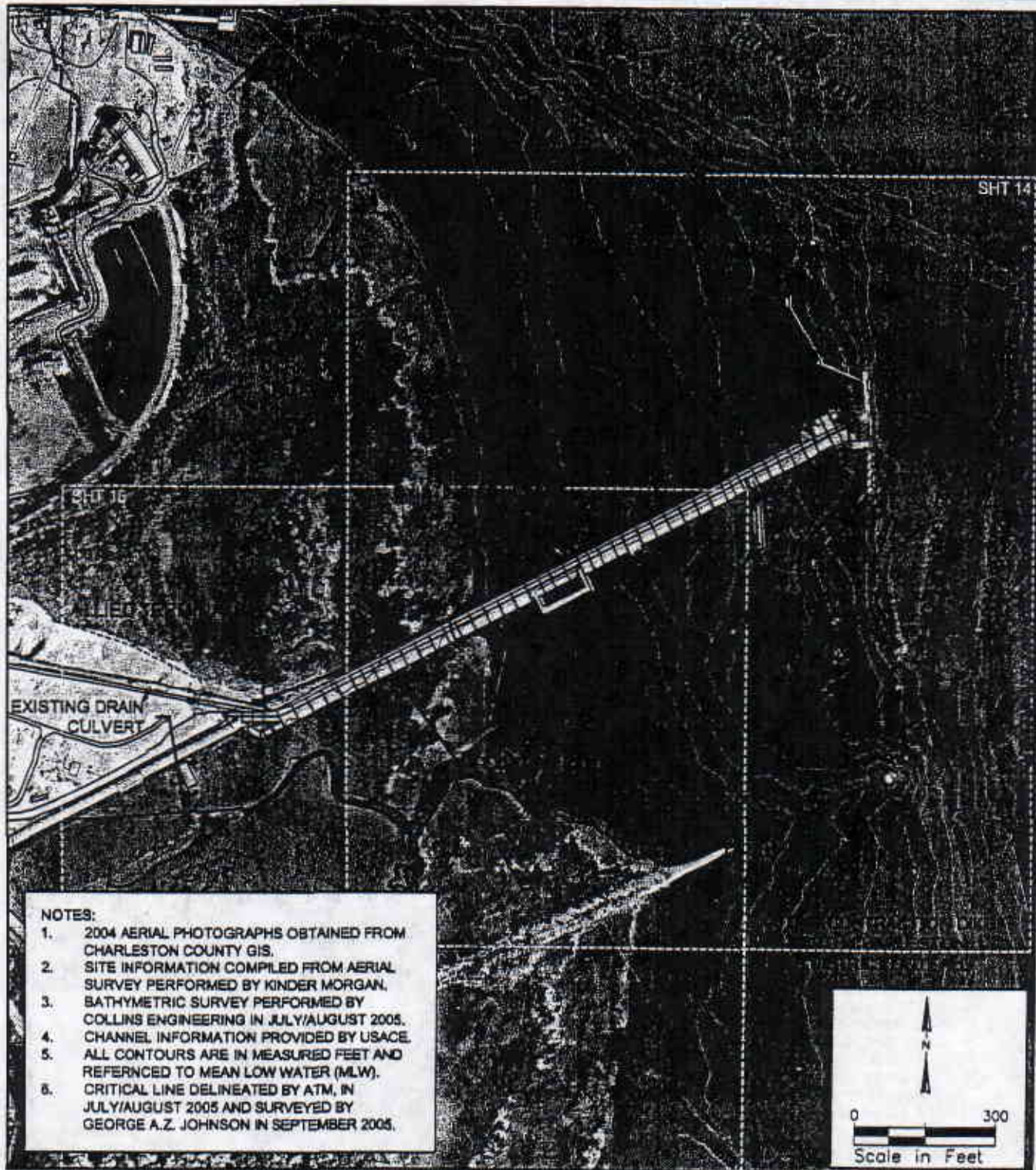
PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA

SHEET 11

2006-2W-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



NOTES:

1. 2004 AERIAL PHOTOGRAPHS OBTAINED FROM CHARLESTON COUNTY GIS.
2. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
4. CHANNEL INFORMATION PROVIDED BY USACE.
5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
6. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

EXISTING CONDITIONS  
DOCK 4/DREDGE SITE 2  
KEY PLAN

KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA  
SHEET 12

2006-2W-286-P (revised)



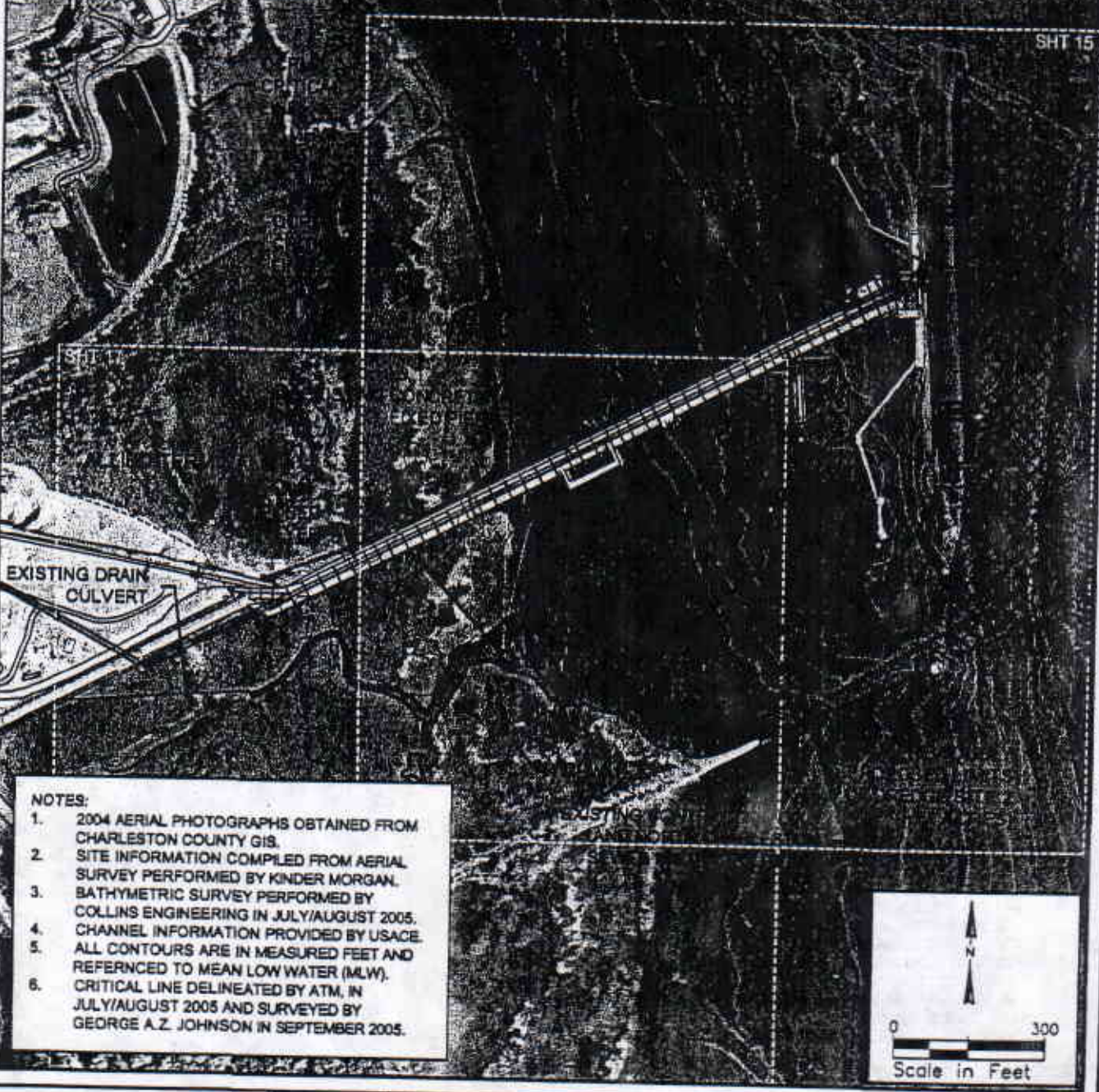
FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"

**DREDGE LIMITS**

PREVIOUS -1.1 ACRES

CURRENT -4.8 ACRES

SHT 15



**NOTES:**

1. 2004 AERIAL PHOTOGRAPHS OBTAINED FROM CHARLESTON COUNTY GIS.
2. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
4. CHANNEL INFORMATION PROVIDED BY USACE.
5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
6. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.



PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B

DATE: 8/25/06

**PROPOSED IMPROVEMENTS  
DOCK 4/DREDGE SITE 2  
KEY PLAN**

KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS

IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA

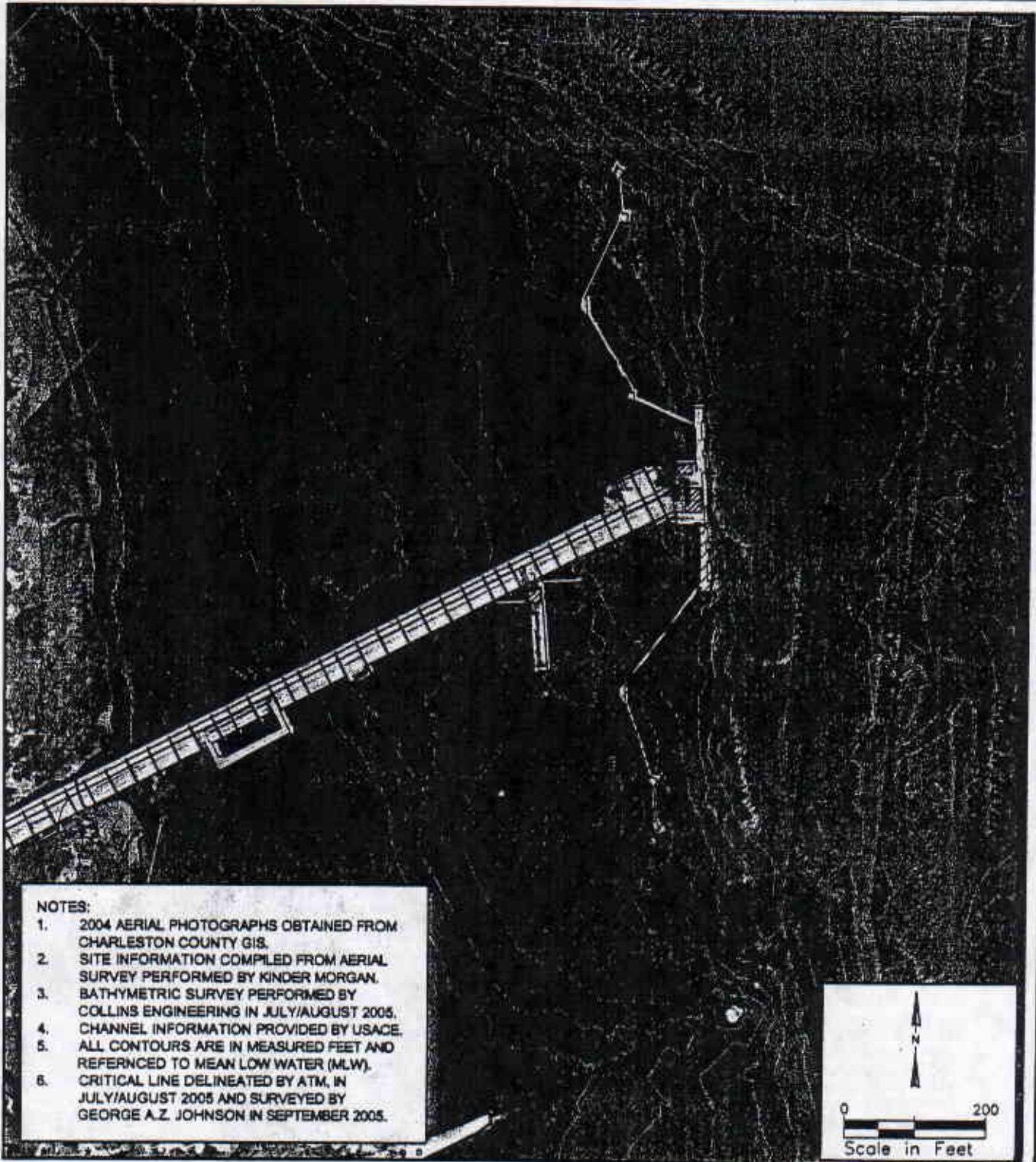
SHEET 13

PERMIT-A-SECTIONS.DWG 8/25/06

2005-2W-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



NOTES:

1. 2004 AERIAL PHOTOGRAPHS OBTAINED FROM CHARLESTON COUNTY GIS.
2. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
4. CHANNEL INFORMATION PROVIDED BY USACE.
5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
6. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

EXISTING CONDITIONS  
DOCK 4/DREDGE SITE 2  
BARGE DOCK  
KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

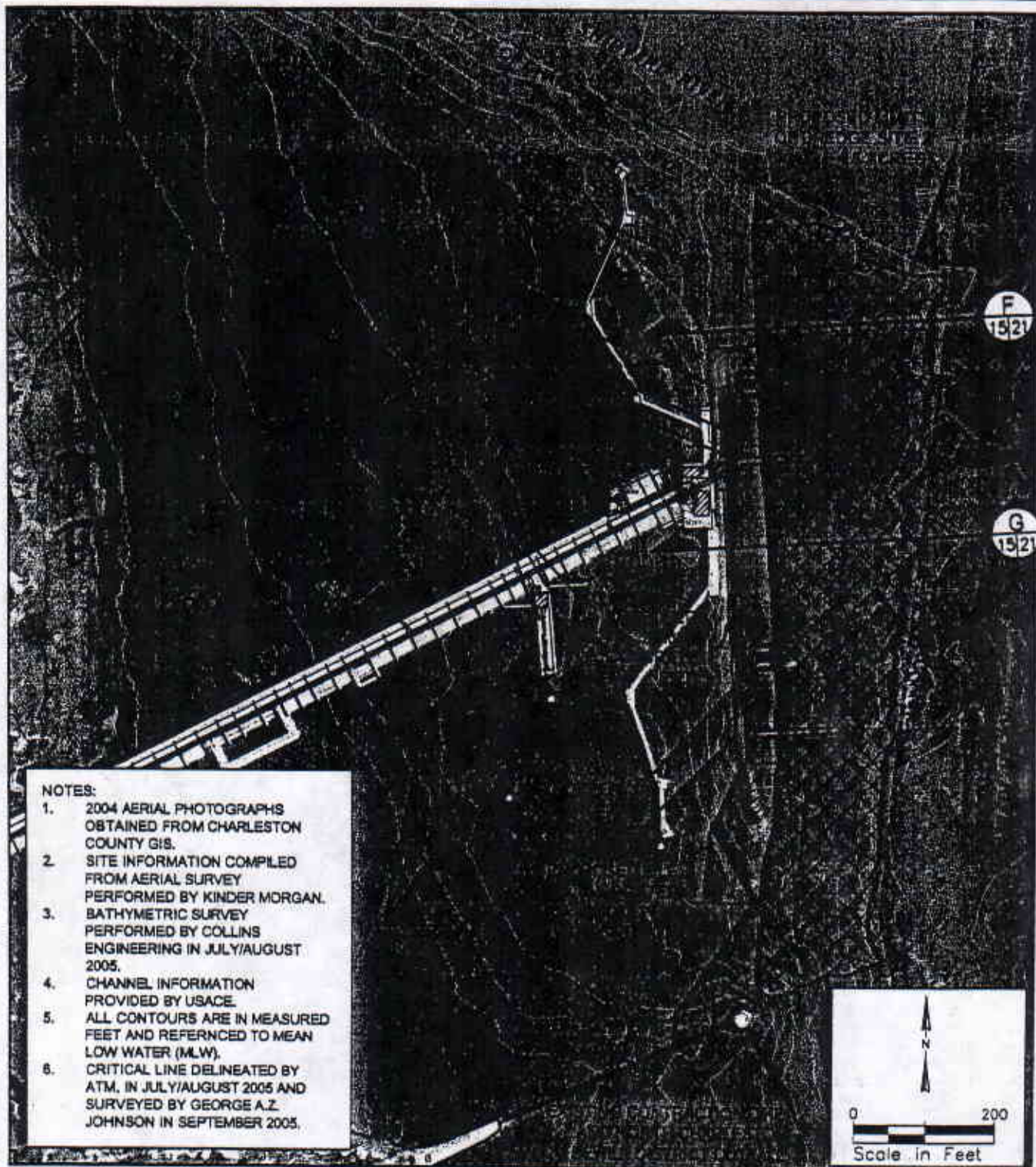
PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA

SHEET 14

2005-2W-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

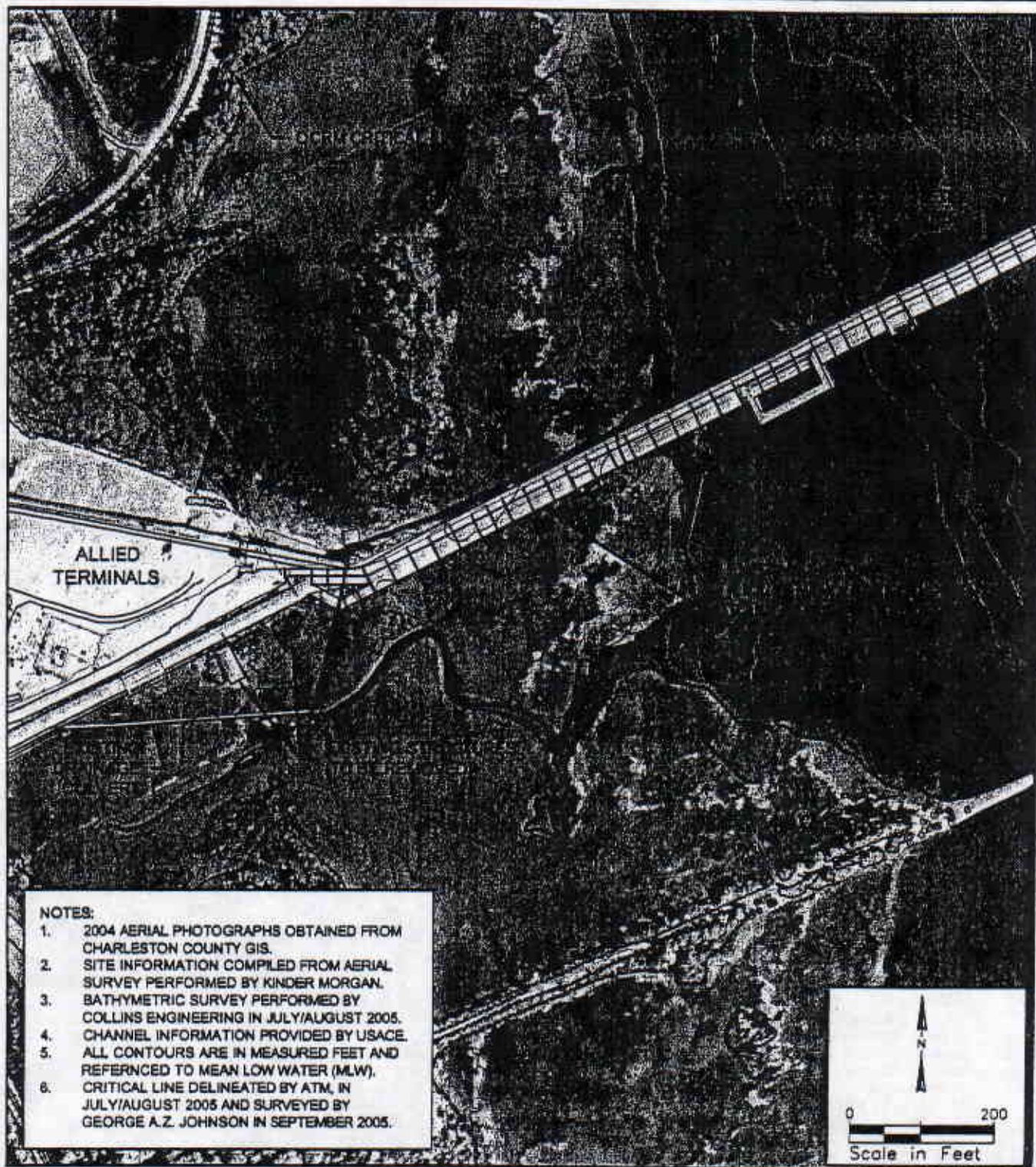
PROPOSED IMPROVEMENTS  
DOCK 4/DREDGE SITE 2  
BARGE DOCK  
KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA  
SHEET 15

2005-2W-286-P (revised)

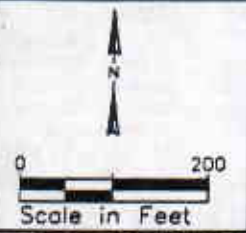


FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



NOTES:

1. 2004 AERIAL PHOTOGRAPHS OBTAINED FROM CHARLESTON COUNTY GIS.
2. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
4. CHANNEL INFORMATION PROVIDED BY USACE.
5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
6. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.



PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

EXISTING CONDITIONS  
DOCK 4  
CONVEYOR  
KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA

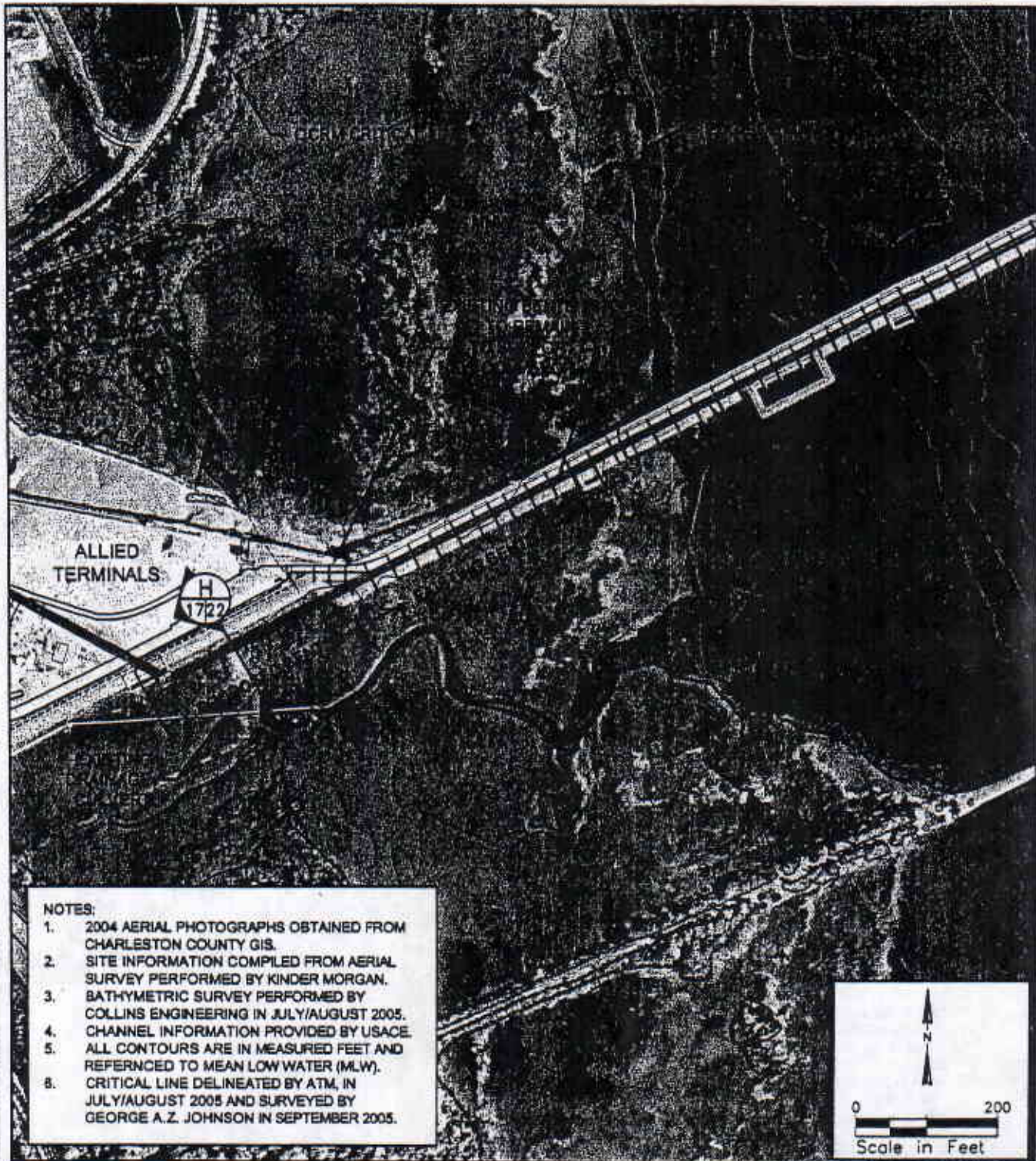
SHEET 18

2005-2W-286-P (revised)

PERMIT-A-SECTIONS.DWG 8/25/06



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



NOTES:

1. 2004 AERIAL PHOTOGRAPHS OBTAINED FROM CHARLESTON COUNTY GIS.
2. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
4. CHANNEL INFORMATION PROVIDED BY USACE.
5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
6. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

PROPOSED IMPROVEMENTS  
DOCK 4  
CONVEYOR  
KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA  
SHEET 17

2005-2W-286-P (revised)

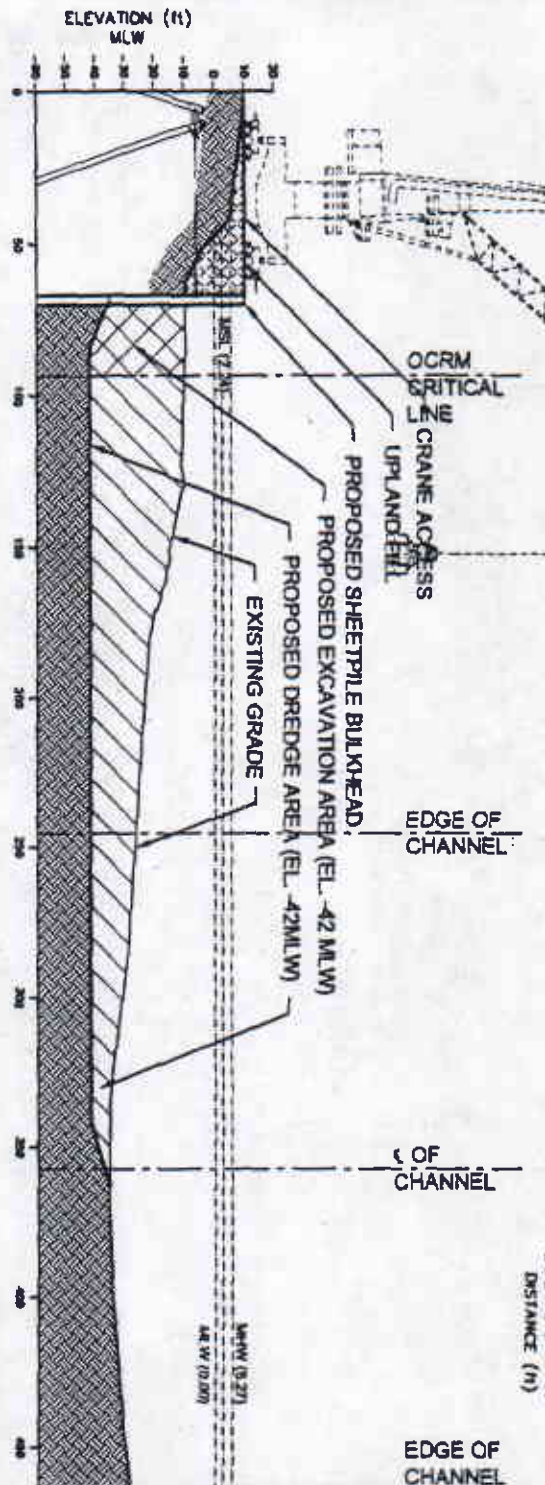


FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"

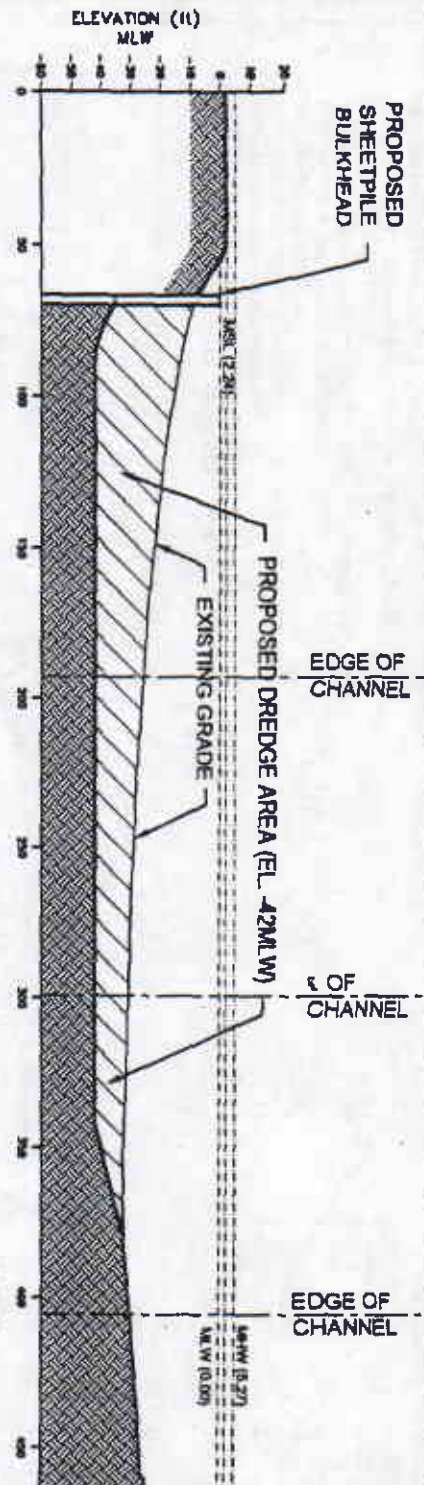
- NOTES:
1. TIDAL DATA OBTAINED FROM NOAA TIDAL BENCH MARK #856 5530.
  2. SITE INFORMATION COMPILED FROM AERIAL SURVEY.
  3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
  4. CHANNEL INFORMATION PROVIDED BY USAGE.
  5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
  6. CRITICAL LINE DELINEATED BY ATL IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

TIDAL DATA	
MHHW	5.61
MHW	5.27
NAVD86	3.23
MTL	2.64
NGVD29(msl)	2.24
MLW	0.00
MLLW	-0.19

SECTION B-B  
DISTANCE (ft)



SECTION A-A  
DISTANCE (ft)



PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

DOCK 3/DREDGE SITE 1  
SECTIONS A-A & B-B

KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

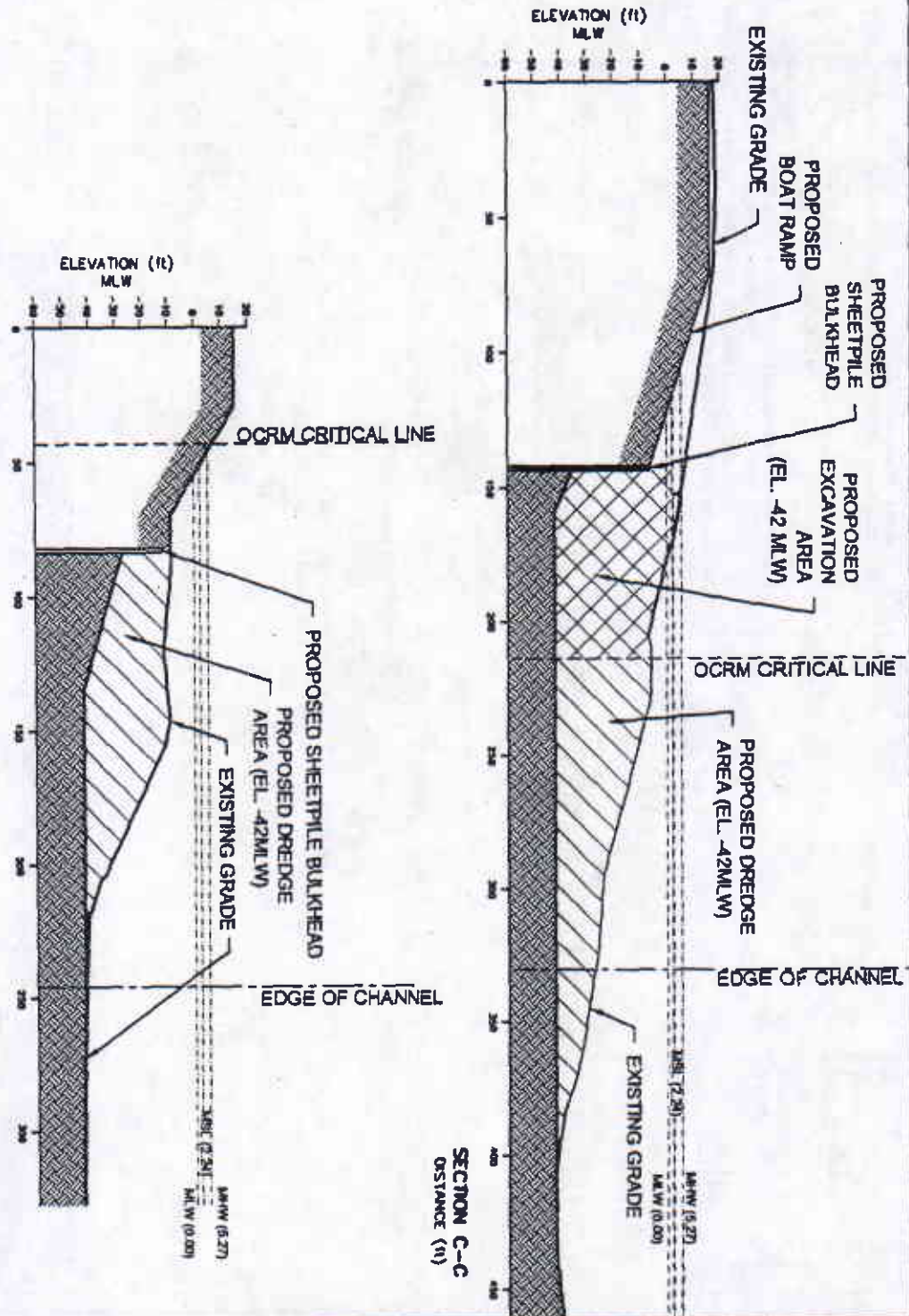
PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA  
SHEET 18

2005-20-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"

- NOTES:
1. TIDAL DATA OBTAINED FROM NOAA TIDAL BENCH MARK #866 5530.
  2. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
  3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
  4. CHANNEL INFORMATION PROVIDED BY USACE.
  5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
  6. CRITICAL LINE DELINEATED BY ATL IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.



PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/05

DOCK 3/DREDGE SITE 1  
SECTIONS C-C & D-D

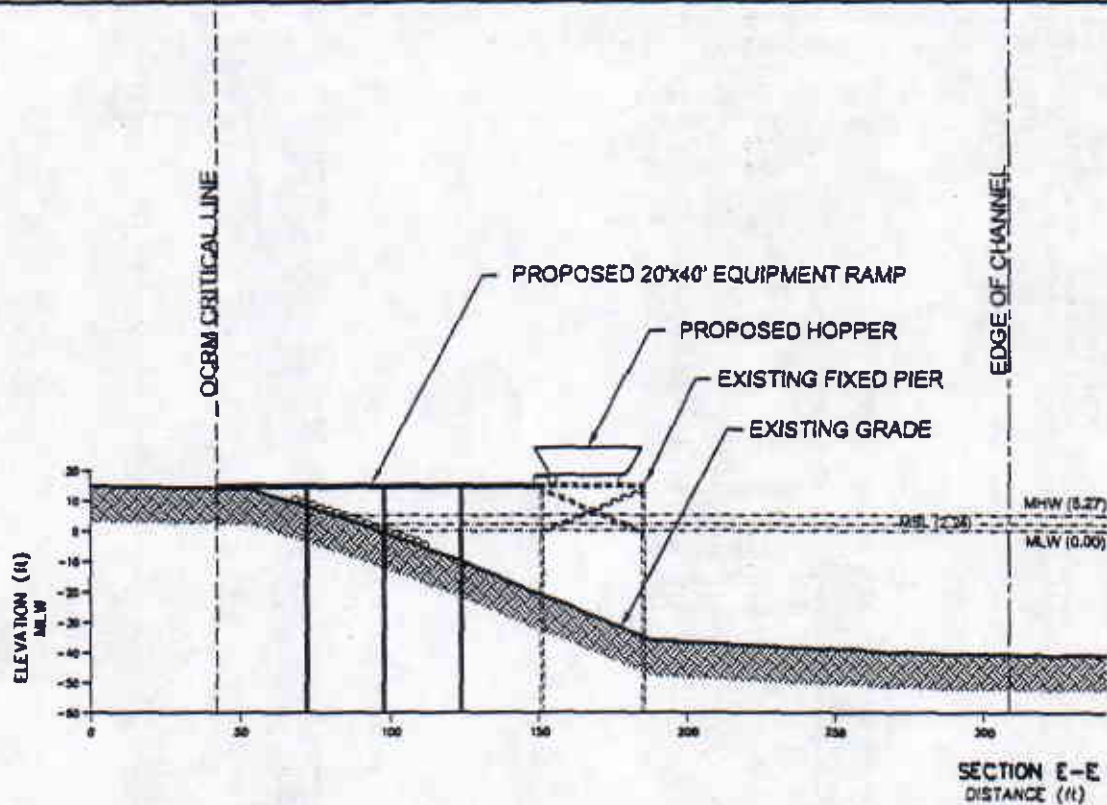
KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA  
SHEET 11

2005-20-286-P (revised)



FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"



NOTES:

1. TIDAL DATA OBTAINED FROM NOAA TIDAL BENCH MARK #866 5530.
2. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
4. CHANNEL INFORMATION PROVIDED BY USACE.
5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
6. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

TIDAL DATA

MHHW	5.61
MHW	5.27
NAVD88	3.23
MTL	2.84
NGVD29(msl)	2.24
MLW	0.00
MLLW	-0.19

PURPOSE: TERMINAL EXPANSION  
DATUM: MLW  
APPLICATION BY: KINDER MORGAN  
USACE #  
ADJACENT PROPERTY OWNERS:  
SEE EXHIBIT B  
DATE: 8/25/06

DOCK 2  
SECTION E-E

KINDER MORGAN  
1801 MILFORD STREET  
CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
OF MOORING FACILITIES, IMPACTS TO  
TIDAL WETLANDS  
IN: SHIPYARD RIVER AND COOPER RIVER  
AT: KINDER MORGAN SHIPYARD RIVER  
TERMINAL, CITY OF CHARLESTON  
COUNTY OF: CHARLESTON  
STATE: SOUTH CAROLINA  
SHEET 20

3205-JW-286.P (revised)

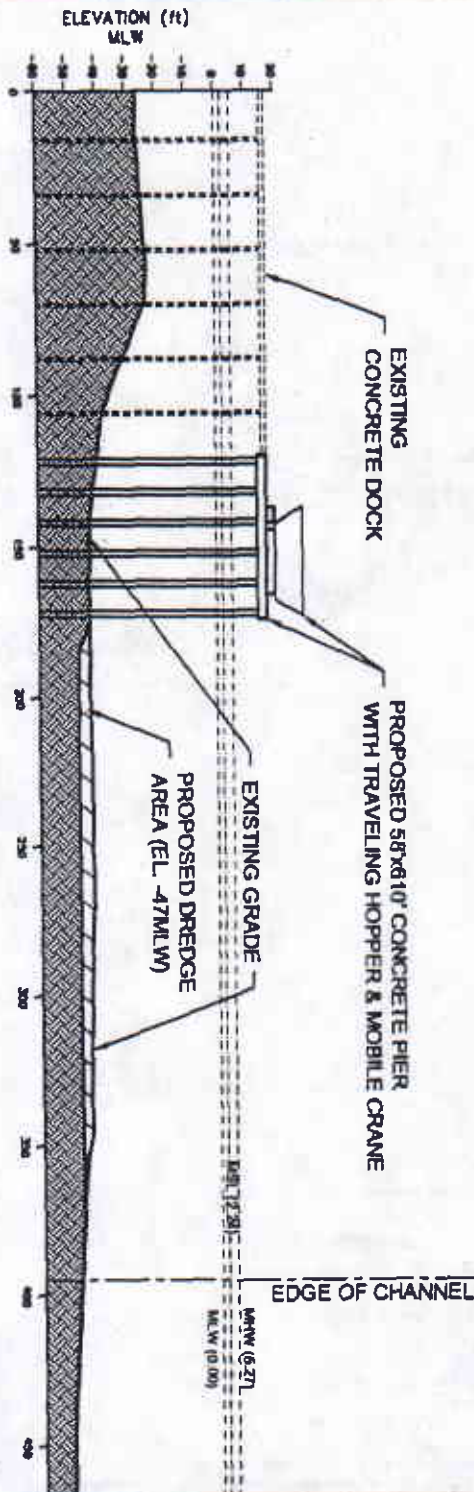


FOR PERMITTING PURPOSES ONLY  
 "NOT FOR CONSTRUCTION"

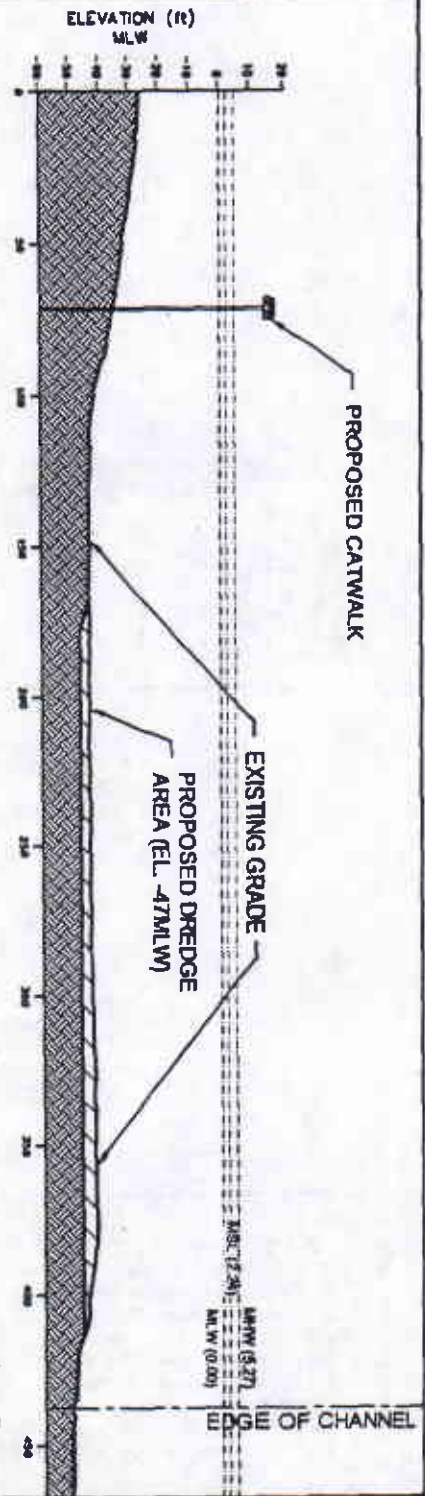
- NOTES:
1. TIDAL DATA OBTAINED FROM NOAA TIDAL BENCH MARK 85530.
  2. SITE INFORMATION COMPILED FROM AERIAL SURVEY.
  3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
  4. CHANNEL INFORMATION PROVIDED BY USACE.
  5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
  6. CRITICAL LINE DELINEATED BY ATL, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

TIDAL DATA	
MHW	5.61
MHW	5.27
NAVD88	3.23
MTL	2.64
NGVD29(msl)	2.24
MLW	0.00
MLW	-0.19

SECTION G-G  
 DISTANCE (ft)



SECTION F-F  
 DISTANCE (ft)



PURPOSE: TERMINAL EXPANSION  
 DATUM: MLW  
 APPLICATION BY: KINDER MORGAN  
 USACE #  
 ADJACENT PROPERTY OWNERS:  
 SEE EXHIBIT B  
 DATE: 8/25/06

DOCK 4/DREDGE SITE 2  
 SECTIONS F-F & G-G

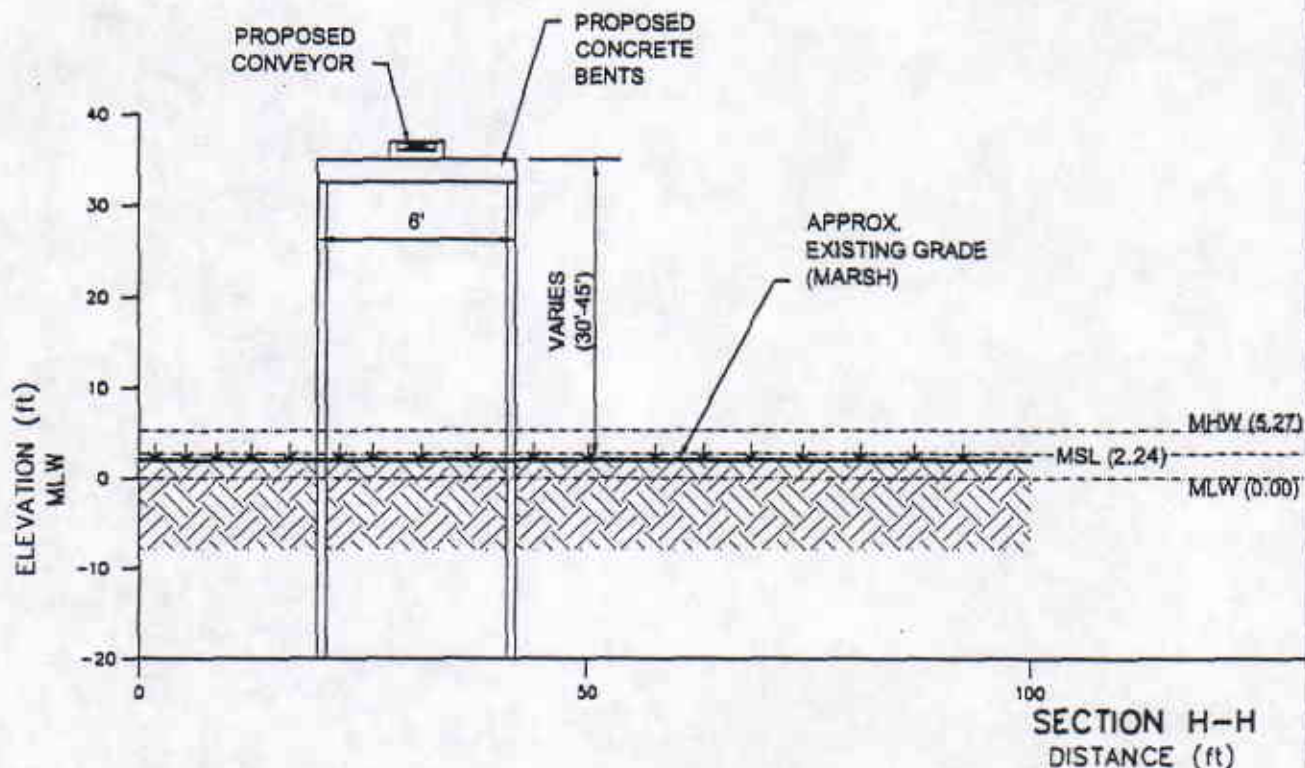
KINDER MORGAN  
 1801 MILFORD STREET  
 CHARLESTON, SC 29405

PROPOSED: DREDGING, REDEVELOPMENT  
 OF MOORING FACILITIES, IMPACTS TO  
 TIDAL WETLANDS  
 IN: SHIPYARD RIVER AND COOPER RIVER  
 AT: KINDER MORGAN SHIPYARD RIVER  
 TERMINAL, CITY OF CHARLESTON  
 COUNTY OF: CHARLESTON  
 STATE: SOUTH CAROLINA  
 SHEET 21

2005-2006-286-P (revised)



**FOR PERMITTING PURPOSES ONLY  
"NOT FOR CONSTRUCTION"**



**NOTES:**

1. TIDAL DATA OBTAINED FROM NOAA TIDAL BENCH MARK #866 5530.
2. SITE INFORMATION COMPILED FROM AERIAL SURVEY PERFORMED BY KINDER MORGAN.
3. BATHYMETRIC SURVEY PERFORMED BY COLLINS ENGINEERING IN JULY/AUGUST 2005.
4. CHANNEL INFORMATION PROVIDED BY USACE.
5. ALL CONTOURS ARE IN MEASURED FEET AND REFERENCED TO MEAN LOW WATER (MLW).
6. CRITICAL LINE DELINEATED BY ATM, IN JULY/AUGUST 2005 AND SURVEYED BY GEORGE A.Z. JOHNSON IN SEPTEMBER 2005.

**TIDAL DATA**

MHHW	5.81
MHW	5.27
NAVD88	3.23
MTL	2.64
NGVD29(msl)	2.24
MLW	0.00
MLLW	-0.19

PURPOSE: TERMINAL EXPANSION  
 DATUM: MLW  
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 USAGE #  
 ADJACENT PROPERTY OWNERS:  
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**DOCK 4 CONVEYOR  
SECTION H-H**

KINDER MORGAN  
 1801 MILFORD STREET  
 CHARLESTON, SC 29405

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 TERMINAL, CITY OF CHARLESTON  
 COUNTY OF: CHARLESTON  
 STATE: SOUTH CAROLINA

SHEET 22

JWS-JW-886-P (revised)

8/25/06

PERMIT-B-SECTIONS DWG